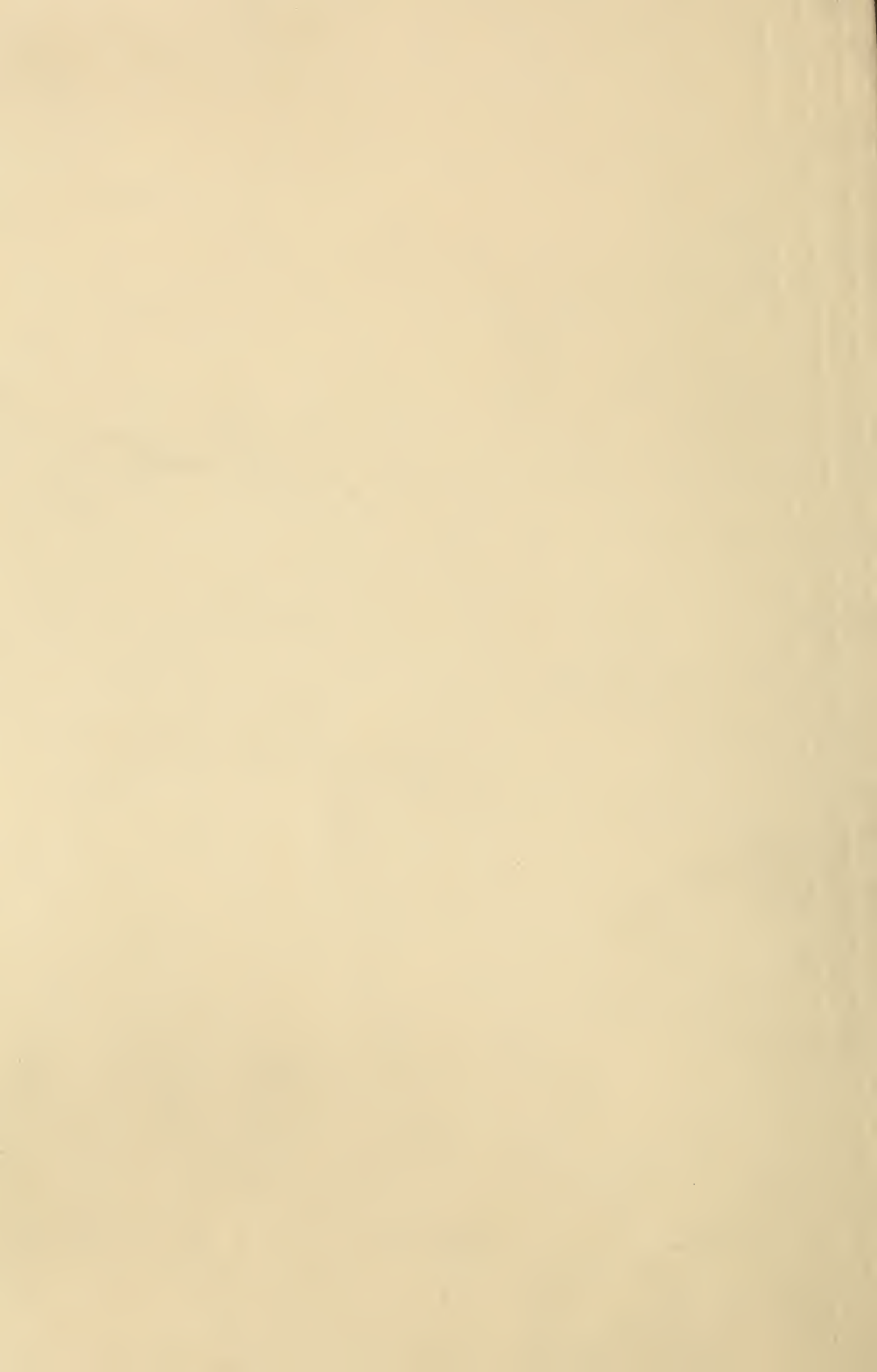


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# Gleanings in Bee Culture

VOL. XXXVIII

JUNE 1, 1910

NO. 11



"There, sonny! See the yellow pollen on the bees! They are carrying bee-bread for the baby bees."



THE A. I. ROOT COMPANY, MEDINA, OHIO, U. S. A.

# Power Honey Extractors

## For Bee-keepers---Large or Small

**W**HETHER you have forty colonies or five hundred, and produce honey by the ton or trainload, you can hardly afford to be without a power extracting-outfit. The power extracting-machines now on the market are filling a long-felt want, especially where it is impossible or inconvenient to get extra help for a few weeks while the honey-flow is on. A great many thousand pounds of honey are lost annually because the large bee-keepers are unable to get help at just the right time, during the few days that the heaviest flow is on. The honey is there and must be made room for within a few hours or it is gone. With a power extracting-outfit it is possible to take care of the entire crop with no loss of time or crop. More honey can be taken from the combs by this process, the combs are not so easily broken, and you can have them ready to put back into the hives before the flow is over. You can't always depend upon getting a man at the right time, but your power machinery is always ready to begin work just when you want it most. These machines are not expensive either in first cost or in operating expenses, and every bee-keeper who produces extracted honey for the market should have one.

### Four Gallons of Gasoline Used in Extracting 33,000 lbs. of Honey—

I have used the power honey-extracting outfit for the past two years, and am more than pleased with it in every way, as it has done perfect work saving labor and time. The cost of running the engine is comparatively nothing, as I used only four gallons of gasoline in extracting thirty-three thousand pounds of honey.

Rockton, Wis., Dec. 20, 1909.

A. A. ERICSON.

Extracting may be made an interesting science instead of an irksome task if the proper machinery is used.

### Gasoline Does what Man can Not do—

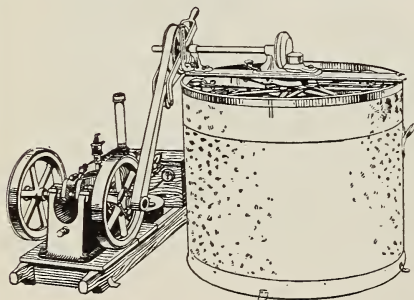
I have no patience with the man who says, "Let the boy turn the extractor." Can't you remember when you had to turn the grindstone? Would you want to disgust the boy with bee-keeping and farm life? On the other hand, consider the boy's love for machinery. Tell him he is to have charge of the engine, and note how he feels his importance. Won't bee-keeping have new charms for him? Had I but forty colonies of bees the power outfit would be part of my equipment. It has come to stay with me. It pays. It gets the thick ripe honey out of combs. Does what man can't.

Morton Park, Ills., Dec. 13, 1909.

E. W. BROWN.

When the engine is not in use to run the extractor, it may be connected to some other machinery, and made to pay for itself many times over. Steam-engines are expensive and complicated. A good gasoline-engine may be run by any one with ordinary intelligence, and is not an extravagant investment.

## Price List of the Root Automatic Extractors for Power



The engine is guaranteed to be first class, and simple enough for any one of fair intelligence to start and run. They have been carefully tested in every particular.

No. 25BP.—Four-frame Automatic for L. frames, 29 in. in diameter, with power gear (weight 260 pounds) . . .	\$32.00
No. 27BP.—Four-frame Automatic for frs. not over 11½ in. deep; 36 in. in diameter (weight 325 pounds) . . .	35.00
No. 30BP.—Six-frame Automatic for L. frames, 34 in. in diameter (weight 340 pounds) . . .	39.00
No. 37BP.—Six-frame machine with 12-in. comb-pockets and power gear (weight 370 pounds) . . .	44.00
No. 40BP.—Eight-frame Automatic for L. frames, 37 in. in diam. (wt. 390 lbs.)	46.00
No. 47BP.—Eight-frame machine with 12-in. comb-pockets and power gear (weight 420 pounds) . . .	52.00
GASOLINE-ENGINE with necessary pulley and speed-controller, ready to attach to an extractor, and full directions to run, f. o. b. factory, Wisconsin (weight, ready to run, 300 pounds) . . .	60.00

**FOR SALE BY ALL LARGE BEE-SUPPLY DEALERS**



# Gleanings in Bee Culture

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## Editorial

VERY soon a good many amateurs will have trouble in getting the bees to work in comb-honey supers. Frequently the reason is that there is, or has been, too much room for honey in the brood-combs.

### A GREAT BEE-SUPPLY YEAR.

OUR manufacturing department has been running night and day, and it is just nicely keeping up with orders. Evidently, if the call for supplies means any thing this is going to be a great year for honey. A year ago there was an unprecedentedly heavy demand for bee-keepers' supplies. After the failure of the honey crop of last season it was naturally expected that this would be an off year, and that most of the supply dealers would have a light season. They have been happily disappointed.

### NEW IDEAS.

WE are on the constant lookout for bright, glittering ideas, new kinks of the trade; short cuts; some plan or method to save labor and make the business profitable. We are willing to pay for these ideas, and therefore solicit drawings, models, and photographs; but don't—don't for goodness sake—send us any more schemes for wiring frames or any model or drawing of a new feeder. There is no use in wasting time on them. They are of minor importance, and we can well afford to turn our attention to something that touches more the fundamentals of the business.

### TO WHAT EXTENT HAVE FRUIT INTERESTS BEEN DAMAGED BY REASON OF THE RECENT COLD SPELLS?

A SUBSCRIBER wishes to know to what extent the fruit has been killed throughout the country by reason of the late frosts and freezes. In this locality very little has been hurt; but there are sections in the North and Northwest where the late cold spell has done great damage to the fruit-growing interests, especially the apples. While we certainly regret the damage to the fruit-growing interests, yet what is a loss to the fruit-grower is, in an indirect sense, a gain to the bee-keepers. When fruit is scarce there is more demand for honey, and at better prices.

### THE LATE SPRING CLOVER VERY PROMISING.

REPORTS from all over the country show that the very early spring was delayed by cold or rainy weather. Even at this writing, May 25, the trees in our locality are only just fairly leafed out, and some of the earlier varieties are almost as bare of leaves as they were in the winter. Reports also show that clover has made a wonderful growth. As this is a natural clover year, and conditions have been exceedingly favorable, we are expecting clover honey all through the clover regions.

The deferred warm weather, on the other hand, is going to mean some weak and starved colonies.

### WINTER LOSSES CONFINED TO LIMITED AREAS.

SOME reports have been coming in, showing that there was very little loss of bees in the northern climates during the winter, and no loss in the extreme Southern States; but there was a heavy mortality among bees wintered in single-walled hives just a little north of the Ohio River and in the vicinity of Pittsburg. The very cold winter caught those bees that were not prepared, especially those wintered in single-walled hives. There has been, as a consequence, an unusually heavy demand for bees and queens. Our home yard alone has sold over three times as many bees this year as during the corresponding period of a year ago.

### POISONED BEES.

AS USUAL there have been a few reports from bee-keepers who wondered why their apparently healthy bees suddenly began dying in large numbers. Of course, the trouble does not always turn out to be a case of poisoning from fruit-trees that have been sprayed while in bloom, but it does sometimes. We believe, however, that such cases are becoming rarer. It has taken the fruit-growers a long time to learn that they are doing themselves a double injury when they spray the blossoms—not all of them have learned it yet—and meanwhile the bees, the fruit-growers' best friends, have had to die by the thousands.

### DO BEES WORK MORE READILY ON FOUNDATION THAT IS FRESH?

A FEW years ago there was some discussion on this question, and the reports rather indicated that the fresh foundation was to

be preferred to that which was old. On p. 106 of the Feb. 15th issue, F. Greiner mentions the fact that S. D. House prefers to fill his sections with fresh foundation the very day he wishes to put them on his hives. Since this statement was published, however, we have heard from a number of our readers, and the general agreement seems to be that there is practically no difference between the old and the new foundation as to the way in which it is worked by the bees.

In the April number of the *American Bee Journal*, Dr. Miller was asked what he thought of the matter, and he replied that, although he would put his foundation in sections and have it on the hives within 24 hours after it left the mill, if possible, he thought that, after all, the difference between the new and the old was very little. He cautioned his questioner, however, against putting old foundation on the hives when the bees were idle. This is good advice, and just as good, too, when applied to fresh foundation, as it is a bad plan to put foundation, old or new, over hives during a time when the bees are idle.

Mr. C. P. Dadant, in the May issue of the *American Bee Journal*, in commenting on Dr. Miller's answer as mentioned above, gives a very nice explanation of why there may be some difference of opinion in this respect. He points out that foundation after a time becomes brittle, just as fence wire, even though galvanized, becomes more brittle after a few years. This foundation that is old and brittle can be rejuvenated by being warmed again. Mr. Dadant selected a piece of foundation two years old, and another piece that was fresh, and filled a brood-comb with each kind, putting both combs in the center of a cluster. He found that both sheets were drawn out, and eggs laid in the cells. As soon as the foundation became crowded with bees the animal heat warmed it enough so that it became soft and pliable again, and therefore lost its brittleness. Mr. Dadant points out, further, that if both the old and new are put into *supers* the bees, because of a lack of sufficient warmth at the start, will not hesitate to appropriate the new more promptly because it is more pliable.

#### GIVING CELLS OR JUST-HATCHED VIRGINS TO QUEENLESS COLONIES; TWIN OR SINGLE NUCLEI FOR QUEEN-REARING.

FOR over a year back our Mr. Bain and our Mr. Pritchard, each in charge of different queen-rearing yards, have been pursuing slightly different methods. Mr. Bain, for example, claimed that he could get better queens by introducing just-hatched virgins to his baby nuclei. Mr. Pritchard, on the other hand, claimed that too many of these virgins were killed for him, and he found it very much better to give cells, allowing the young queens to hatch out rather than be let loose.

Both men are good queen-breeders, and

we were at a loss to account for their seeming difference of experience. Mr. Bain right along demonstrated he could introduce these young baby queens to his nucleus hives. He objected to giving cells because the cells, he said, could not locate themselves in the warmest part of the cluster; and, besides, he averred you could not tell from the looks of a cell what kind of a queen was inside. If a scrub or deformed queen hatched, she must be destroyed and another cell given, wasting time. Mr. Pritchard, on the other hand, said that, while he could introduce these virgins, the bees worried them, gnawed their wings, perhaps tore off a leg, and too many of them had to be discarded because of their rough usage.

Yesterday, May 24, Mr. Bain called us out to the yard and said he had found why it was Mr. Pritchard could not succeed in introducing just-hatched virgins to his nuclei. "Why," he said, "it is as plain as day when you come to think about it. Mr. Pritchard uses *twin* nuclei—a bunch of bees and two combs on each side of the division-board—while I pull out the division-board and use the *whole* nucleus box." Then he added, "I have been trying a lot of these twin hives, and I find, like Mr. Pritchard, I can not introduce virgins successfully. Here is the explanation: The side of the nucleus that has a laying queen will draw largely from the other side." So saying he showed us a number of "twins" having a laying queen on one side and a cell or virgin on the other. The side with the laying queen in every case had the stronger bunch of bees.

"Now, then," he said, "the influence or odor of the laying queen on the strong side seems to permeate the other side; and when we let loose a virgin they just kill her. But we can give that side a cell; and when that cell delivers its virgin the bees accept her. Again, suppose I take the laying queen out of the strong side and give it a cell. In the meantime the virgin on the other side begins to lay, when almost immediately her side will draw from the other that probably has only a virgin or possibly nothing. You see, the trouble with these twin nuclei is that the side that has the laying queen seems to dominate to a great extent the side that has none. Now when each nucleus is on its own hive-stand, remote from any other bunch of bees, it is possible to introduce these day-old virgins right along. I tell you, Mr. Root, I do not want any more to do with these 'twins.' I want to select my virgins—that is, cull out all but the very best, and give these very best to the mating nuclei."

Mr. Bain went on to explain that we can give two virgins simultaneously, one to each side of a "twin," and all will be well, because one side has no advantage of the other in the queen.

\*The entrances to these twins are on the diagonally opposite corners. It is evident that the odor of the laying queen draws the flying bees over to the entrance where she is laying.



## SOME WAX-RENDERING METHODS OF EXTENSIVE PRODUCERS.

In the April issue of the *Bee-keepers' Review*, Mr. Hutchinson describes the apparatus that Mr. W. J. Manley, of Sandusky, Michigan, uses for rendering wax on a large scale. Nearly all of these appliances are such as can be made at home with the help of the local tinsmith and blacksmith. Aside from a few details of construction the general plan of procedure is just about the same as the one which we have used for about two years, and which we have recommended as being the best plan, all things considered, for the average bee-keeper. Possibly an exceptionally large producer of wax would require more expensive apparatus, but we believe that there are few who produce wax on a larger scale than does Mr. Manley, and it is doubtful, therefore, whether a more expensive outfit would be needed by many bee-keepers.

The comb is melted in a common wash-boiler on a stove, with plenty of water. While this is being pressed, another batch is melting in another boiler. The contents of the first boiler are dipped and poured into a burlap sack inside the press, and all the water is retained so that the refuse is kept in the hot water. After the pressure by means of the screw has been applied for some time, the screw is raised and the hot water again allowed to saturate thoroughly the contents of the sack, on the Hershisier plan. The screw is then turned down again, and the slumgum given another pressing. This can be kept up as long as desired, or until practically all of the wax is pressed out of the cocoons, so that it rises to the top of the water. All the water and wax is then poured into a large separating-tank with a faucet at the bottom, and a gate part way toward the top. Hot water for the next boilerful may be drawn from the faucet at the bottom of the separating-tank; and whenever the layer of wax gets thick enough the pure wax may be drawn off through the gate near the top of the can. The process is thus continued, and a large number of cans, pails, etc., are not needed. In the side of the separating-tank Mr. Manley has a strip of glass so that one can tell where the dividing line is between the wax and the water. When this line is below the upper gate, clear wax can be drawn off. If the dividing line should happen to be just at the gate, a good deal of the sediment that settles into the water beneath the wax would be drawn off into the mold. For this reason the glass in the side of the tank is an advantage; and while we have never used this, we can see that it would be a great improvement. The sediment can be left right in the separating-tank, and lifted out of the water with the thin layer of wax finally left to cool. The hot water may be used over and over again.

While we agree with every step in the system of rendering wax as practiced by Mr. Manley, we believe that, in the matter of the press itself, a change in construction could be adopted that would be both cheap-

er and handier. Mr. Manley has succeeded in building a press depending on the can alone for supporting the bottom, cross-arm, etc.; but the average blacksmith has so little idea of the tremendous pressure exerted by a screw in this way that he generally has to rebuild an affair of this kind about three times before he makes it strong enough so that it will not break. Mr. Manley uses a spider riveted to the side of the can near the bottom. He also uses side hooks for securing the cross-arm to the top of the can, after the construction of the German wax-press. But unless reinforced so heavily as to make the construction pretty expensive, this plan is sure to be too weak for the enormous pressure exerted, and on this account we have always used a plain can made of ordinary heavy tin with a hoop around the top. Our oak cross-arm is supported by a wooden framework and by means of heavy bolts which extend from the cross-arm down through the platform underneath the can. The oak framework is a little cheaper construction, and a much stronger one, and it has the further advantage that it is very easy to attach a couple of hinges to the front of the platform so that the whole press may be tilted up on edge to pour off the wax and water after the last pressing. This avoids the heavy lifting of the hot press, and facilitates the work in every way. When it is desired to lift out the contents of the burlap sack after the wax and water have been poured off, the screw is simply turned up as far as it will go, and the can slid out from under it to a position on the front of the platform, where it is very easily refilled.

In the Feb. 15th issue of *GLEANINGS* for 1908, page 210, Mr. R. F. Holtermann described the Sibbald wax-press, which was very much like the well-known Hatch-Gemmel wax-press, with this exception, that Mr. Sibbald allowed the water to remain in the can so that the refuse would always be submerged. Mr. Sibbald also advised pressing three cheeses at a time by means of slatted division-boards. We are sure that it is a good plan to keep the water in the can during the pressing; but we do not believe it practicable to press more than one cheese at a time in an unheated press—that is, in one which does not stand over a stove or is not heated by means of steam, etc. Apparently, Mr. Manley has also found that it is best to press but one cheese at a time.

A few years ago there were not many bee-keepers who saw the need of a good heavy press for extracting wax from old combs, believing that the solar wax-extractor got practically all of it; or if they did not use the solar they simply boiled up the combs in a kettle, weighted down the refuse with a screen, and dipped the wax off the top of the water—by this process throwing away wax by the hundreds of dollars' worth. It indicates progressiveness when extensive producers like Mr. Manly advocate a method which is both rapid and thorough.

## Stray Straws

By DR. C. C. MILLER, Marengo, Ill.

DOOLITTLE's plan for introducing, p. 247, is entirely safe. I used the same plan, only I merely put the queen and brood in a hive and set it *over* a strong colony with double wire cloth between the two stories. Less trouble, and safe *if* weather is warm.

IT IS TRUE, as Mr. Simmins says, p. 324, that  $\frac{1}{8}$  inch greater thickness of a bar makes a greater distance from the brood-comb to sections; but is not the disadvantage over-balanced by the advantage that, the further apart brood-combs and sections are, the whiter the sections will be?

"DO ROSES offer any thing for bees to work on?" is a question discussed with some warmth in *L'Apiculteur*. Some accept and some denounce my statement in a Straw, that bees had torn open buds on my roses. M. Gaston Bonnier, whose opinions are always entitled to respect, says the bees could only have been after pollen.

J. E. CRANE is quite right in saying size of entrance for wintering depends on what's on top, p. 309; and that's true whether outdoors or in the cellar. My bees in the cellar have a 12x2 entrance with sealed top. When I first cellared bees it was just the reverse—every thing sealed tight at the bottom, and all open at top. The whole hive (box hive) was just turned upside down.

ABBE GUYOT has an out-apiary of 9 colonies, 75 miles distant, which he visits only once a year, just to harvest the crop! In his brood-chamber he has 15 frames 13x13—a little larger than a Langstroth frame. Over this a board covering with  $\frac{3}{8}$ -inch holes at the outer edge to allow access to the five shallow extracting-supers. He averages 110 pounds per colony.—*L'Apiculteur*, 135.

GEORGE W. WILLIAMS, p. 321, I don't believe establishing a non-swarming strain of bees is so hopeless as it might seem, even with no control of drones. Please remember that, with full control of queens, by selection you are constantly affecting the drones, making it only a matter of longer time to reach the goal. I believe it's worth your while to try it.

M. E. SEVALL reports, *L'Apiculteur*, 93, that a late swarm was hived in a box, its owner not knowing whence it issued. After eight days, M. Sevalle dumped the swarm on the ground, found and caged the queen, and the bees soon arose and went to their old home, where they were kindly received. He does not feel sure a swarm would always be kindly received after so long a time; but the plan of finding the mother colony is good.

"DR. MILLER asks for a safe method, and is told that there is no absolutely sure plan,"

p. 313. Oh! but there is, friend Buchanan, a plan of queen introduction that is *absolutely* sure. I have used it for a valuable queen. Take eight or more frames of hatching brood—no unsealed brood—without a single bee; put it in the hive with the queen, over a strong colony, with wire cloth between, and close bee-tight. In five days set the hive on its own stand, giving very small entrance.

KARL GUENTHER, in his 35 years' experience, has seen hundreds of young queens return from their wedding-flight, and thinks that, under normal conditions, they are not balled on their return. That they were balled upon returning to a small hive with glass walls was what might be expected. The light shining in alarmed the queens so as to set them to running, and then the bees balled them.—*Leipz. Bztg.*, 58. Mr. Pritchard is all right. [Mr. Gunther offers a very reasonable explanation of why the queens were balled in those little glass hives; and in this connection it is some satisfaction to feel that our own experience is backed by the thirty-five years of Mr. Gunther.—ED.]

AN EIGHT-FRAME HIVE is not large enough in the breeding season for an extra-good queen. Neither is a ten-frame hive. A second story must be added; and the two-story eight-frame is better than the two-story ten-frame. As the season advances, an eight-frame hive with abundant super room is large enough. But when fall comes the large hive is much better—for the bees. Of course, the lighter hives and lighter supers are much nicer to handle. All in all, I suspect thousands of eight-frame hives are in use where ten-frame would be better. If only one size is to be made, let it be ten-frame, sure. [You say that the two-story eight-frame is better than the two-story ten-frame. Are you sure about that? We agree with you that a ten-frame hive is not large enough for some good queens. There are times when two eight-frames would not accommodate such queens. We have been slowly coming to the conclusion that, even for the production of comb-honey, we should prefer the ten-frame size; and in the case of an extra-prolific queen we would put on an upper story. When she got brood well started in both stories, and it was time for putting on comb-honey supers, we would take off the upper story, crowding the solid frames of brood down into the lower story, and give the other frames to weak colonies. In the meantime we would put on our comb-honey supers, one or two as the strength of the colony might require. With ten frames below filled with brood, the first honey coming in ought to go into the supers. "But," you say, "how about pollen?" Young hatching brood would leave room for the storage of pollen. Or, perhaps better still, we would put on a shallow extracting-super and a comb-honey super. The first mentioned would leave room for storage of pollen. It might be necessary to put a queen-excluder on top of the lower story.—ED.]



## Notes from Canada

By R. F. HOLTERMANN

### PROSPECTS FOR THE SEASON.

Since my last writing, lots of young bees have appeared in the hives; but I am told that even colonies packed on the summer stands, owing to the wet and cold weather for the last two weeks, have not much brood in the hives, and stores are not any too plentiful. However, I believe the bees have made progress while vegetation has advanced slowly indeed. Three white frosts have visited us (May 3, 4, 5), the heaviest on the 4th. The outlook is still good, and a honey crop is now almost a matter of temperature only.



### SPACES OF BEES.

So our good old friend Dr. Miller has joined G. M. Doolittle to the extent of "suspecting" that Doolittle is right when he says, "Six spaces of bees on a frosty morning the first of May is better than more or less." I suppose I am not in it at all, then, when I had to super twelve-frame Langstroth hives on and before April 21. Just the same, I wish Mr. Doolittle lived near me and would make a few exchanges, giving me his colonies with more than six spaces in exchange for six spaces. Can not the difference of opinion upon this subject be laid to management? I doubt very much, where the non-swarming plan is followed out, if bees can be too strong at any time.



### LIST OF APIARY INSPECTORS FOR THE PROVINCE OF ONTARIO IN 1910.

1. J. S. Schrank, Port Elgin, Bruce and Huron.
2. D. Chalmers, Poole, Waterloo and Perth.
3. Wm. Idle, Clarksburg, Wellington and Grey.
4. W. A. Chryser, Chatham, Lambton, Kent, and Essex.
5. John Newton, Thamesford, Middlesex and Elgin.
6. James Armstrong, Cheapside, Norfolk, Haldimand, and Welland.
7. W. Bayless, Grand View, Oxford and Brant.
8. Alex. Robertson, Waterdown, Wentworth and Lincoln.
9. Arthur Adamson, Erindale, Halton, Peel, and Dufferin.
10. Hy. Johnson, Craighurst, Simcoe and Muskoka.
11. J. L. Byer, Mount Joy, Ontario, York, Victoria, and Durham.
12. W. Scott, Wooler, Peterboro, Northumberland, Hastings, and Prince Edward.
13. J. B. Checkley, Linden Bank, Lennox and Addington, Frontenac and Leeds.
14. A. A. Ferrier, Renfrew, Renfrew, Lanark, and Carleton.
15. Alex. Dickson, Lancaster, Russell, Prescott, and Glengarry.
16. Homer Burke, Tayside, Greenville, Dundas, Stormont.



### IS THERE A "BEST BEE"?

There are so many things that D. M. Macdonald writes that I agree with and consider excellent that I hesitate to comment upon his article on p. 296, May 1, especially as he is a ready lance with his pen.

More than that, owing to some slip I was recently made to say that he was becoming well known as an apicultural writer when I intended to add *on this continent*, as he is already well known in Europe. In defending the black bees against the charge of not defending themselves as well against the moth, he justly points out that, with strong colonies, the wax-moth need never be feared. True; but I have had hundreds and hundreds of instances where, in the same apiary, in strong colonies, the wax-moth larvæ could be found sometimes half a dozen in a black colony. Such instances are rare in Italian colonies. Yes, in this country one can readily find eight or ten larvæ of the moth in a black colony where one would be found in an Italian. This being the case, there must be a point where the black stock succumbs to the moth when the Italian does not. More reason would lead me to believe that the black bee must be less vigilant at the hive entrance when other enemies approach; and experience bears out my reasoning. As to susceptibility to foul brood, I can not prove any difference. In case of what is called American foul brood I doubt if there is any difference; but I find much more dead brood in colonies headed by black queens than with Italian or Carniolan. I say "Carniolan," because we in Canada do not refer to them when we use the term *black bees*. The Carniolan and black bee have characteristics as distinct as the Italian and black; and if any one doubts this statement, let me say, "Your Carniolan bees have little or no Carniolan blood in them."



### UNTIMELY BREEDING.

Mr. Macdonald commends black bees for "not breeding untimely." As I understand that term, when comparing Italians and Carniolans with blacks, this is a virtue I have never been able to appreciate in black bees. If bees have been brooding until April 20, they are packed so that brood will not chill, even if the hives are not protected beyond a warm cover and proper entrance. When it rains, and perhaps a few chilly days come, for two weeks, the blacks stop brood-rearing while the Italian and Carniolan bees go on. I like that kind of *untimely brooding*. This untimely brooding of Italians and Carniolans gives me a lot of comfort during the present weather, during a break in a honey-flow—yes, after the last flow and until cold nights come on. The young bees are the heart and soul of a colony at all times. Mr. Macdonald quotes Quinby, "I can often avert a black bee in time to prevent a sting; but he must be a skillful swordsman who would thus parry the lightning thrust of the Italian." Admitting the trait, it just shows the strong, vigile, and active character of the Italian. Something can be said for black bees. They have some traits superior to Italians; but give me the medium yellow-colored Italians in preference to the blacks.

## *Bee-keeping Among The Rockies*

By WESLEY FOSTER, Boulder, Colo.

### THE SECTION-DAMPENER.

The editor says, page 293, May 1, that he would not think the water would pass through more than one row of sections. The fact is, the water runs clear through on to the floor and dampens every groove if warm water is used.

### CONCERNING THE RETAILER.

Mr. Diener, page 249, April 15, takes exception to some of my statements on page 105, Feb. 15. I do not think the retailer is responsible for high prices altogether; but I do think that the retail business is overdone, which makes it necessary for him to make a higher percentage of profit than if a larger business were done. I certainly do not think the retailer is making any more money than he should; but the small amount of business done makes it necessary to charge a higher percentage of profit.

### BEE-KEEPING ON THE "DIVIDE."

We have all thought here in the West that honey in quantities could be had only in the irrigated valleys; but bees get considerable nectar from the wild flowers on the prairie. Some of the "dry" farmers are keeping a few colonies, and are succeeding with them. The bees on the "divide" between Denver and Colorado Springs often make as much honey as do those in the irrigated districts. The divide has a heavier rainfall than most parts of the West, and the wild flowers are very abundant. Many a mountain valley and apparently barren field has surprised the bee-man who showed faith by keeping bees in these districts that are passed over by the general run of bee-keepers. The honey gathered from the Western wild flowers is darker than alfalfa, but it finds ready sale among many people who prefer it to the alfalfa honey.

### AN EARLY SPRING.

Spring came much earlier than usual this year; and unless we have some cool weather to discourage breeding, bees are going to swarm much earlier than usual. The abundance of wild flowers, dandelions, white clover, etc., will be quite a factor in early swarming. If we have abundant showers these flowers will come out in profusion, and the stimulus given the bees will bring swarming within a few days after alfalfa blooms. If our bees get the swarming fever at the opening of the alfalfa bloom we certainly shall have a time controlling it. The outlook now is that we shall have a swarming year. There will be honey, no doubt; but if the bees act the way they have in some previous years we bee-keepers will have a busy time

persuading the bees to live in a sensible number of hives. The wild flowers on the mountains and along the edge of the foothills have been more abundant than ever, so far, and the bees in these places have swarmed already, some few being reported in April.

### LIQUEFYING CANDIED COMB HONEY.

The test given in melting comb honey, page 278, May 1, is valuable to western bee-keepers; but I think it would have come out better if the temperature had been kept between 65 and 75 degrees. This temperature would hardly discolor the honey. However, it would not melt any honey already candied, but would largely prevent further granulation. I melted some candied comb honey, and the color was darkened. The most noticeable feature was the toughness of the comb. It was waxy, and not delicate and crisp, as the comb was before melting. The temperature was between 100 and 105 degrees. Most of the combs sagged a little; a few melted down altogether.

The opinion of all Easterners is that alfalfa honey is worse for candying than any other honey. This may be true; but it is a fact that honey gathered entirely from alfalfa, when weather conditions are favorable for its thorough evaporation, is not liable to candy for over a year. I have seen snow-white alfalfa comb honey heavy in body that did not granulate for two years.

It is not difficult to tell the honey that will granulate from that which will "stand up" for a long time.

Comb honey built during an intermittent flow will candy quite soon. It is light amber or amber in color, and is thinner in body than honey gathered in a continuous flow. Comb honey of a clear white transparency, and heavy in body, may be safely stored away for sale in the spring, as it will remain clear if not subjected to great changes in temperature.

### Bees Gather Honey from Common Field Peas, but they do Not Get it from the Blossoms.

I heard that bees worked only on the stalks of the field peas where the blossoms drop off, so three years ago I made some observations; and in every case I found that not a bee worked on the blossom. They were working at the point where it dropped off, pod and all. A sweet substance is secreted here, and the bees worked on this. I wondered if there was any nectar inside the blossoms; so I pulled quite a number apart, and in every instance I found that the little pod was just bathed in nectar, although the bees did not notice it nor seem to know how to get at it.

Last summer I had near the house a small patch of peas that was covered with bees from morning till night, so I made some more observations. Nearly all of them were working on the stalks as usual; but here and there I saw a few Italians pushing their tongues down into the blossoms, as the blossoms are not closed the entire length on the upper side. I intended to go back with some flour and mark the bees that were working on the blossoms, and note the hive that they came from, in order to raise some queens from this strain, but neglected to do so. I believe if we could raise bees that would work on the blossoms it would make quite a difference in the yield of honey here. I have never noticed any pollen from the field peas.

Fremont, Mo.

MRS. ALMEDA ELLIS.



## Conversations with Doolittle

At Borodino

### EMPTY COMBS AS FEEDERS.

"It is only an occasional season that it seems to pay me to feed. I live where bass-wood is about the only surplus I can count on; and after apple-bloom there is little the bees can get between; and when they fail to secure enough to keep brood-rearing prosperous through June I believe it pays to feed. I did not want to go to the expense of buying feeders, so I thought I would fill a lot of empty combs I have with syrup; but on trying to do so I failed to get much into the cells. Can you tell me how it is done?"

"If you lay an empty comb flat and pour liquid on it, instead of the liquid running into the cells, as you would think it would do, it simply stays on the surface or runs off at the sides, very little entering any of the cells. But should you hold the liquid three or four feet above the comb you will succeed better than by pouring it on in the most natural way, with the vessel containing it near the comb. But even at the height of four feet, if a portion of the syrup falls in a compact mass it will not enter the cells, as it can do this only by forcing the air out. Where the syrup presses with equal force over all parts of the mouth of any one cell there is no chance for the air to get out, and the cell remains empty. The drop or stream of syrup must be smaller than the inside of the cell in order to enter it readily, therefore the smaller the drops we can have, the better our success. To this end, if we take, instead of a dipper, the watering-pot we use in the garden during a drouth, fill it with syrup, and hold it up from the combs three or four feet we shall be able to fill most of the cells as we desire. Syrup as thick as we often want to use for feeding will not readily pass through the rose of a watering-pot unless hot; and if hot enough so it becomes thin it will melt the combs so as to destroy our feeders. But we can use "one-to-two" syrup as warm as 110 degrees without danger to the combs, and this will be just the right heat to be comfortable to work with.

If you do not have more than ten or fifteen combs to fill, lay one of these flat down in the bottom of a large dish-pan or wash-boiler. Hold the watering-pot, filled with 110-degree syrup, a few feet above the comb, trembling the rose a little as you pour, so that not all strikes in the same place. As soon as one side is filled, turn the comb over and fill the other side in the same way. In this way keep on till your combs are all filled. If syrup accumulates in the bottom of the boiler, pour it back into the watering-pot, being careful that you do not spill any outside the dishes you are using, and thus make a muss sufficient to make you wish you had procured feeders different from frames of comb."

"But these combs, when filled, make feeding easy by setting them in colonies lacking stores, do they not?"

"Yes. I have thousands of such, and consider this the very best way to feed unless I can have frames of sealed honey to set in, instead of these frames filled with syrup."

"But how about the drip?"

"By setting empty hives over a wash-tub, and hanging the frames in these as fast as filled, the tub will catch all drip so it can be saved."

"But I wish to use several hundred of these combs of syrup. I judge the watering-pot is too slow for so many."

"Years ago I used a tin pan the size of one of my frames, and four inches deep. In the bottom of this I punched holes (from the inside) about the size of those in a rose used for garden-watering. These were in rows  $\frac{3}{4}$  inch apart, and the holes  $\frac{1}{2}$  inch apart in the rows. This dish was set on two strips which were fastened to the top of a bench four feet high, the strips jutting out from the bench so that the dish rested on them at each side, and came out over the floor below, sufficiently so that a large wash-tub could be set underneath. On the bench, a honey-extractor can was installed, so that the gate was over this pan, punched full of holes as I have described. This can, minus the extractor-reel, was filled with syrup of proper temperature, a wire-cloth herb-strainer being fastened to the faucet, so that the holes in the pan would not be clogged by any foreign substance which might get into the syrup. Some sheets of tin were fastened on a trough made of boards set on a little incline, the lower end of which came so that all drip would run into the washtub, and over this trough were set hives to take the frames of comb as fast as filled. With the needed assistant, all was ready. I sat on a stool by the wash-tub, with rolled-up sleeves so I could hold the frames of comb near the bottom of the tub. The assistant opened the faucet just enough so that the syrup would run from each hole in the dish, when, by moving the frame about a little from side to side, the cells were all filled instantly, the frame turned over, and the other side filled as quickly. The assistant then handed me another empty comb, taking the filled one and hanging it in one of the hives standing on the trough, carrying it along over the trough and hives so no drip would get on the floor. In this way I would have the frames filled as fast as he could hand them to me, and put the filled ones in the hives, often filling over 100 an hour. The drip, and whatever fell into the tub, was emptied into the extractor-can as often as necessary, the strainer catching all particles of comb or dirt that accumulated, so that with this and the necessary feed the can was kept full as long as we had empty combs: the cost of all feeders saved, and the feed put right in the hive among the bees just where I wished it, with no danger of robbing in times of the greatest nectar famine by setting in these filled combs in the twilight."



## General Correspondence

### EXTRACTING DURING THE HONEY-FLOWS.

#### Stacking up Supers vs. Extracting Frequently During the Flow.

BY G. C. GREINER.

[Fortunately the number of bee-keepers who extract honey before it is at all capped is growing smaller—many of the prominent producers even going so far at present as to do no extracting until the end of the season, stacking up the supers four and five high. The writer of this article represents the majority, probably, who, during the flow, extract all combs that are nearly capped over.—Ed.]

The question which I am frequently asked, "Would you advise me to produce comb or extracted honey?" must be decided by every bee-keeper according to his natural inclination and surrounding conditions. The main point that should decide the matter is our outlet or demand. If we have a ready market, and are fortunate enough to live in a locality that produces a fair grade of honey, the production of extracted honey is certainly advisable.

But, above all things, nothing but a prime article should ever be taken or sent to the market. The importance of this point is nicely brought out by Mr. Townsend in his "Two-can article," published in the *American Bee Journal* a short time ago. I fully agree with Mr. T. that a poor article will ruin our trade; but I have to differ with him on the management of producing a prime grade. My methods are so different from Mr. T.'s, with some important advantages thrown in, that a brief description of my *modus operandi* may be a help to others who are situated as I am. But before making the attempt I will make a few general remarks, lest Mr. T. and his adherents may get scared.

For years I have practiced extracting during the honey season, commencing when my combs are capped three-quarters or over. Of course, I do not suppose that all my combs are in just that stage of progress. I may find some that are all capped, and occasionally one not quite three-quarters; but if such a one comes in rotation with the lot to be extracted, it goes into the extractor just the same.

I sell at least nine-tenths of all my crop direct to the consumer, which brings me in close contact with that class of people who actually use and test my honey; and if it did not give entire satisfaction, I would be very apt to hear about it. But, instead, I have, during the last eight or ten years, built up a honey trade, with a reputation for extra-fine honey, that any honey-producer might be proud of. In a sense, I am a professional honey-producer—that is, I depend on the product of my bees almost exclusively for my daily bread and butter, and

I expect to do so just as long as Providence permits. This being the case it would be very poor policy to produce an article that would spoil my own market.

Several reasons induce and compel me to extract early. First, if I should leave my honey on the hive until after the honey season, as Mr. T. advises us to do, it would be next to impossible to extract it. It would become so thick and heavy that a good portion of it would adhere to the comb and be lost as surplus. When I extracted last summer, early as it was, with now and then little patches of open honey, I had to do quite a little cranking to throw it out of the combs, and after it was out it was very slow to run out of the two-inch honey-gate of the extractor.

Second, my customers are always anxious to get some of my first honey. Whenever I am in the city during spring or early summer, my customers frequently hail me on the street: "When will you bring some of your honey to the market?" or, "Haven't you any honey to sell yet?" or, "Bring me some of your first honey you have to sell," etc. These are expressions I hear time and again. If I should wait until fall before I extracted, my customers would lose their patience and supply themselves from some other source, and I would lose my trade. As it is, a large share of my crop is sold, and the money in my pocket, before Mr. T. even thinks of extracting.

Third, I believe the use of one extracting-super, instead of tiering up, increases my honey crop. The constant changing and shifting of combs, which is necessary with my management, seems to have an energy-producing effect on my bees. The shaking-energy-into-bees theory, which some of our friends advocate, seems to find here practical application. On the other hand, if the forces of a colony are scattered through three or four sets of extracting-combs, empty or filled, idly taking care of uselessly spread-out premises, how can they be gathering and ripening honey? They can not do as effective work as when all forces are concentrated in one super close to the brood-nest.

It may be well enough to say a few words about my appliances, and why I use them. As I am a strong advocate of perfect uniformity in every thing where possible, I use the Jumbo frame, both in brood-chamber and extracting-super. I am thereby enabled to change frames back and forth. It is sometimes very desirable to move combs of brood from the brood-chamber to the super, and at other times combs of honey in the opposite way. It is the same with the super and the brood-chamber. At a minute's notice one can be used for the other. By simply hooking or unhooking the bottom, as the case may be, one is the other whenever desirable.

Then I use to each hive one extracting-super only. I am partly compelled to do so. My physical condition, as a consequence of advanced age, prevents me from

practicing the tiering-up plan. One of my supers, when ready to raise, weighs between 75 and 80 lbs., which is more than I care to handle right along. I am, therefore, compelled to remove my crop by the single comb.

Another item that should be taken into consideration is the additional expense of getting stocked up. It would require quite an amount to furnish the necessary outfit for the season's crop if left on the hives until fall, besides the handling and taking care of so much more paraphernalia.

In brief, I manage my extracting in the following way: As soon as the season is far enough advanced to show signs of incoming honey, all better swarms are supplied with their supers. This generally takes place during fruit bloom, about the 20th or 25th of May. When the white-clover flow begins, or a little before, all the rest that promise fairly well are also supplied to make sure that all have room for storage. As the flow advances, and the strong and best-working colonies are filling up, I take from two to four of their heaviest combs and exchange for empty ones from the weaker colonies that have not started yet. The bees that adhere to these full combs, I try to shake in front of their hives; but I am not very particular if a few bees are left on the combs.

Two or three days after the first exchange was made, the inserted combs in those strong colonies are probably full again, and need exchanging a second time. When this is done, all the bees are left on the combs taken from colonies that are overly strong, and exchanged for empty ones of the weakest swarms. In this way I hit two birds with one stone—I control swarming with one lot and build up another to proper working condition.

About this time I have no more empty combs in weak colonies to draw from, nor storage for full ones over weak colonies. All need their empty combs for their own use, and the extractor has to be called into requisition to help out. The combs that were not exchanged, but were left in the strong colonies from the opening of the season, are now more or less capped, and have to be extracted to provide storage where needed.

With a comb-basket full of empty combs I go to the first hive that needs more room and exchange all the combs of honey, fit to be extracted, for empty ones. The full ones are taken to the honey-house, and extracted, after which they are taken to the next hive that needs more room, and exchanged as before. In that way all crowded supers are relieved of their overplus.

When the comb-baskets of the extractor begin to drag in the honey, the latter is drawn off and emptied into tanks. No strainer is used at any time. It is not necessary with my management.

The next round, two or three days later, brings the whole yard to that state of perfection which I consider ideal in every respect. Every super has sufficient storage to accommodate the incoming nectar, which

controls swarming; and every super, with, perhaps, the exception of a very few of the weakest that have not caught up yet, has honey ready for the extractor, and that enables me to extract whenever I desire to do so.

In the honey-house, conditions are as favorable for the progress of my work as they are outdoors. By the time my tanks are full, or nearly full, the first one has clarified itself and is ready to be drawn off into retail packages. Thus I always have storage for the honey from the extractor, and honey ready to be canned.

During the rush of the honey-flow I make it a point to extract daily, but only during the middle or warmest part of the day. Mornings and evenings I spend my otherwise leisure hours canning. Cleaning, labeling, and filling cans keeps me busy. It takes me about three days to make the circuit; and when the flow is at its best I can begin again at one end when I am done at the other.

In giving the foregoing outline of producing extracted honey, as I practice it, I am well aware that the same management would not suit everybody, nor could it be followed by everybody else; but it is the plan that is best adapted to my own conditions, and I can say I have been quite successful in the past.

La Salle, N. Y.

## THE STARVATION PLAN OF CURING FOUL BROOD.

### The Infection of the Hive; the Quinby-Jones Plan.

BY G. W. BARGE.

In the summer of 1905 I discovered foul brood in my home apiary as well as in the outyards where my bees were out on shares; and when Mr. France came here he advised using the McEvoy treatment, which we did, but it did not prove entirely successful with us, as the disease appeared again in some hives. We accordingly treated it the next spring. We also tried the Alexander method, with no better results, and, after thinking the matter over, we came to the conclusion that the only way in which the disease spreads is through the diseased honey, so we decided to try a method of our own, which is as follows, and with which we have had complete success.

First, remove the queen; and if she is a good one which you wish to save, put her into a nucleus. After fifteen days look through the hive for queen-cells and destroy all but one to prevent swarming. Wait at least twenty-one days after removing the old queen, as by that time the healthy brood will all be hatched; then take an empty hive, cover the top with wire screen, nail the bottom-board on tight, leaving only the entrance open. Set the hive containing the foul brood a little to one side and put the



empty one with screen cover in the place of it. Shake the bees from the old hive out in front of the entrance of the hive covered with screen. Handle them as quietly as possible, for, the more quiet they are, the less honey they will take with them into the new hive. Lay a sheet of heavy paper in front of the entrance to catch any honey which may drip from the combs when shaking the bees from the frames. (This can then be burned after you are through with it.) It is better to do the shaking in the evening; but we have done the work during the day by using one of the Root hive-tents.

After the bees are all in the new hive, close the entrance and carry them into the cellar or a dark room. I prefer the cellar, as it is cooler, and they will consume the honey which they have carried with them much sooner. Leave them there at least thirty-six hours; then take another hive with good clean combs (I have used full sheets of foundation by giving one frame of brood). Put the new hive on the old stand from which the bees were taken; bring the bees from the cellar, preferably in the evening, and shake them in front of the hive with the combs. The next day examine them to see if they have a queen. If not, always have one ready to give them; but nine times out of ten they will have raised a queen before going into the cellar.

It is surprising how they will go to work after they are brought from the cellar and put into the new hive, and how quickly they will build up. We have had swarms treated in this way during the latter part of May from which we have taken 50 lbs. of extracted honey in the fall, and have never yet found any traces of foul brood in colonies so treated. I call this the starvation plan, and will guarantee it to work everywhere and every time.

In case the swarms to be treated are very weak we take them to a strange yard after removing the queens, and unite two or even three of them by piling up the hives with screens between them and cutting a small entrance in the wooden frame of each screen. After twenty-four hours the screens may be removed, when the bees will all go together without fighting. If there is any honey in the old hive from which the bees were first taken, extract it, then boil it thoroughly, after which it can be mixed with sugar syrup, and fed to the bees when needed. I have fed this honey in the fall for winter stores, and have never found any trace of disease in colonies so fed. Melt the old combs and have the wax made into comb foundation to replace them. Take the covers and bottom-boards off the old hives and nail a strip of wood across the top to hold the frames in; place them in a tank of hot water and boil them. Two minutes of hard boiling is sufficient. After the hives are boiled, put in the covers and bottom-boards and boil them, when all will again be ready for use. We like this plan better than boiling the frames and burning out the hives as given in Scholl's method on page 77, Feb. 1, as in

this way it can all be done at once, and the hives are not charred and dirty inside as when burned. After all is finished you are at no expense except your time, as the extra wax will more than pay for the making of the foundation.

Union Center, Wis.

[The plan here described is practically the same as that advocated by Moses Quinby in the first volume of his book, in 1853. Mr. D. A. Jones, of Canada, some thirty years later, got out a booklet in which he described what he called the "starvation plan." He confined his bees, without brood or combs, in a dark cool place until they had consumed all the honey in their sacs, then let them loose on foundation. But the objection to this starvation plan has been this; It reduces the vitality of the bees. In order to build comb bees ought to be well fed. Indeed, they ought to be fat. To starve them down gives them a bad setback. Experience has shown that bees put on foundation will generally use up all the honey in their sacs in drawing the foundation out into comb, especially if they are made to build comb from foundation twice.

But if foul-broody bees are to be let loose on clean dry *comb*, they should be starved as recommended by our correspondent, and ought to be starved long enough to use up every particle of the honey in their sacs.—Ed.]

## THE ALEXANDER PLAN OF BUILDING UP WEAK COLONIES.

Some Practical and Timely Manipulations; Alexander's Ideas Sound.

BY WM. L. COUPER.

The discussion relative to the Alexander method of curing foul brood should serve to remind us how much bee-keeping lore we owe to the late veteran of apiculture. Speaking personally, my entire system of management has been changed by his writings, though I have frequently varied his plans somewhat to suit my own methods.

I think the first Alexander plan that I tried was his method of building up a weak colony by placing it on top of a very strong one with an excluder between. The first year I tried this it proved a failure with me, though I endeavored to follow his directions exactly. Since then I have employed it continually and most successfully, and I fancy my first failure must have been due to a failure to realize what Mr. A. meant by "a very strong colony." I notice that a good many bee-keepers find it necessary to place either paper or wire screen between the colonies at first. I have never taken any precautions of the kind, and have yet to see the first fight; but my bees are all Italians. About an hour before sundown I remove the cover of the strong colony, replacing it with an excluder. Two hours later I place the weak colony on top, and the job is done.



While this is far the most successful way of building up weak colonies in spring it has some objections. One is that, in dividing the hives after they are both strong, the one that is moved away loses its field bees almost entirely. Another is that bees strongly object to carrying pollen through an excluder, and the combs of the lower hive get choked with it.

#### THE ALEXANDER PLAN FOR MAKING INCREASE.

At one time I used the Alexander plan of making increase throughout almost the entire apiary. I have largely given it up now, partly because I don't want to increase, and partly for other reasons. In case anybody does not know this plan I may say it consists in leaving one frame of brood and the queen in the lower story, and filling up with empty combs or foundation, the other frames of brood being placed above an excluder on top. Queen-cells in the top hive are destroyed in six days, and the tenth day the upper story is moved to a new stand and given a ripe queen-cell—better, a virgin queen; or, best, a laying queen. To beginners who desire to adopt this plan I would offer two suggestions: Do not attempt it unless there is a fair, steady honey-flow, especially if you employ foundation instead of combs. As a rule, the plan will work better if you have two frames of brood below with the queen instead of one. While I do not use this method now for increasing, I do employ it in a modified form for making and building up nuclei and other purposes. NEVER INTRODUCE A QUEEN TO A FULL COLONY.

There was one remark of Mr. Alexander's that I do not think ever received the attention it deserved. It was to the effect that it is always bad policy to introduce a queen to a full colony, for, though she might be accepted at the time, she would very likely be superseded very shortly. If this is the case, and from my own observation I think it very frequently is, should not queen-breeders advise introduction to nuclei?

#### SWARM PREVENTION.

The questions of swarm control and the successful introduction of queens are brought up regularly every season in the bee-journals; so, perhaps, my methods may be of some interest. My swarm-prevention method I discovered by chance. So far it has been successful; but I have not tried it long enough nor on a sufficiently large scale to guarantee it. Give a second story filled with combs as soon as the hive is full of brood, and let the queen have the run of both stories, till shortly before the honey-flow. Then insert a queen-excluder, leaving the queen above. In ten days put her below again. If running for comb honey, remove the top hive in a day or two, and replace with a super (the brood in the top hive may be used to build up weak colonies). I have never found colonies treated like this swarm; but take note that the queen must be left in the top story, as this is important.

Bees do not, in my experience, build queen-cells below an excluder with a queen above, but the reverse way they often will.

Cannington Manor, Sask., Canada.

[It is becoming more and more apparent that Mr. Alexander's teachings stand the test of time when we take into consideration his environment. For thirty years he was almost unknown to the public, and yet one of the most successful bee-keepers in New York. During his latter days he began to write. He had nothing to take back, because his earlier experiences were not down in black and white; and, however much his views may have been modified during his thirty years of actual work, we secured what we may call the final conclusions of his ripest and best experience. Mr. Couper, our correspondent, is not the only one who has been so enthusiastic over the benefits derived from the late Mr. Alexander.

We are pleased to note that Mr. Couper's method of swarm prevention is very similar to one that we used and advocated some years ago. We are prepared to believe it is all right, not that we were the first to give it to the public, but because we had seen it and tested something like it.—ED.]

#### THE LAYING WORKER A RARA AVIS.

Are Workers that Lay as Common as Many Suppose? is Not an Undersized Queen Nearly Always to Blame?

BY ALLEN LATHAM.

To keep bees for twenty-five years, and during that period make a most careful study of their habits; to have the experience which all that entails, and never see a laying worker—well, that raises a question. Scarcely a copy of GLEANINGS comes to hand without some reference to these pests (?), and nearly every mention accompanied by a cure; and the question looms up greater than ever. It loomed so big that I even ventured to state to a friend that I was going to write GLEANINGS and deny the existence of such a thing as a laying worker. The friend, however, checked my enthusiasm thoroughly by stating that he had had lots of laying workers, and that he had even seen the varmints back into a cell and leave eggs.

Once, some twenty years ago, I had what I called a case of laying workers. I called it so because all the signs were there—only drone brood or no brood at all; numerous eggs in cells, and no queen to be found. Since then I have many times found all these symptoms except one, and that one has been persistently absent because a queen was in each case persistently present.

During the last twenty years every summer has furnished numerous cases of colonies, full or nuclei, going queenless. These cases have invariably divided themselves

under two heads—either absolutely queenless or temporarily queenless, the succeeding queen to remain a virgin.

Of the colonies under the first head, colonies have gone queenless in late fall or early winter, and colonies have gone queenless in late spring or early summer. The result has always been the same—no eggs, no brood. No matter how long such colonies were left, in no case have eggs appeared. All colonies showing eggs came under the second head, and every one had a queen.

Why, with so many chances for laying workers to set up their rule, have none ever appeared in these colonies? Is there any answer other than the title which heads this small article—the laying worker is a *rara avis*?

One is led to think that, in all probability, the vast majority of cases of so-called laying workers are cases of undersized virgin queens. That one painstaking observer should not find a true case in twenty years, though he had scores, if not hundreds, of apparent cases, should not be considered a circumstance to be lightly passed over. The actual finding of worthless queens is better evidence than the failure to find any queen.

During the past summer I had one or two rather annoying cases. For a time I began to suspect that no queen was present. It was only after persistent search, a search which called into play all my skill, that I eventually in each case spotted the insignificant queen. The removal of each queen was followed by an easy introduction of a good queen.

Though I do not deny the existence of laying workers, I am forced to think that they have been given credit for being much more common than they are, and for being, in consequence, of much greater importance than they are. I firmly believe that more careful search will, in the majority of cases of laying workers, reveal what the bees recognize as a queen, but what is easily overlooked by the bee-keeper because she has not every attribute of a queen.

Much greater care must be exercised in the search for this queen than in the search for a normal queen. Queen and bees both fail to act in a perfectly normal manner. The queen is more inclined to hide than is the sound queen, and the workers are less inclined to indicate to the bee-keeper the locality of the queen. Though the queen is recognized as a queen, she gets little homage.

The best way to find such a queen is to proceed as follows: Open the hive gently, and quietly remove combs from both sides. Before removing any combs it is also well to lay a strip of cloth lengthwise over the combs containing the eggs and brood. Continue to remove combs from each side till only two are left. If careful selection has been made, these two will, in the vast majority of instances, hold the queen. Now split these two combs apart with a quick motion, and give a rapid glance over their inner surfaces. If the queen is not seen inside of ten seconds, replace these two combs; but either

leave the others outside, or, if placed in hive, leave them two or three bee-spaces away from the central two. In about fifteen minutes take another look between those inner combs.

Do not look for a plump queen which moves majestically about the frame, nor one which slides with folded wings quietly under the bees. Look rather for a nervous bee with wings partly outspread, a bee somewhat larger than a worker, but with actions unlike those of a worker. When one knows what to look for, these small flighty queens are nearly as easy to find as are the normal queens.

One strong argument in favor of the belief that laying workers are of rare occurrence lies in the fact that nearly every remedy, if not all, will as certainly get rid of such a queen as I have described. The queen is never found, and this is usually accepted as sufficient evidence that there existed a bona-fide case of laying workers.

It has been suggested that laying workers are evidence of Cyprian blood. As the writer has been in the habit of sticking to bees with a goodly percentage of black blood, his failure to find laying workers may be thus easily explained. It might be worth while to gather more complete data along this line. If there are apiarists who have had laying workers of other than Cyprian or Golden stock, why not hear from them? But let proof be offered. Failure to find a queen is no proof at all. Some of these little queens go through excluder zinc quicker than you can say Jack Robinson. The only satisfactory proof is to catch a worker in the act of laying an egg. One can divide a colony of supposed laying workers; and if eggs continue to appear in *both* portions, this is fair proof.

Norwich, Conn,

[While we believe laying-workers are uncommon we are sorry we can not agree with our correspondent on another point. There is a wide difference between the work of dwarf or scrub queens and that of laying workers. In a well-regulated apiary, especially where its owner keeps up with the times, laying workers, or the evidence of their work, is very rarely found. In fact, we are almost inclined to think that almost any one who allows such pests to develop among his bees is not much of a bee-keeper. One of two things is true—he is either careless or ignorant.

Every queen-breeder is very familiar with these scrub or dwarf queens. Some of them are so small that they are very difficult to find. They are not a rare bird in a large queen-rearing yard. But one thing is sure—it is quite impossible to introduce a queen, laying or virgin, to a colony having one of these worker-like queens. On the other hand, it is quite possible to introduce a laying queen or virgin in a hive of laying workers. To give a ripe cell is the usual remedy for the nuisance. We never, in all our experience (and we have raised thousands of queens) seen a case where a scrub queen



would scatter eggs like a laying worker unless she were somewhat cramped for egg-laying room.

The very fact that Mr. Latham, a progressive bee-keeper, has not found laying workers among his bees is not at all strange. He ought not to find them. Most strains of bees can be queenless a considerable length of time without developing laying workers. We will venture to say if he or any one should attempt to produce them by making a hive long queenless he would be disappointed. He might succeed with the Eastern races. It is very seldom that we have laying workers in any of our yards; and when they do show up we are sorry to confess it is in the case of a yard that has been neglected. We have, around Medina, in our various yards anywhere from four hundred to six hundred colonies. Among all these bees we do not have a hive of laying workers once in three years, notwithstanding that some hives will be long queenless some time in the spring when the demand for queens is heavy and it is too early to give cells or virgins; but scrub queens from some insignificant cell that escapes scrutiny are not uncommon. Such queens make all kinds of trouble until they are located and their heads pinched. If Mr. Latham keeps only a limited number of colonies it would not be surprising if he should not find a case of laying workers in thirty years.—ED.]

## COMB AND EXTRACTING SUPERS ON THE SAME HIVE.

A Plan for Preventing Swarming, and Inducing the Bees to Enter Comb-honey Supers Readily.

BY JAY SMITH.

The question is frequently asked, "What is the best-sized hive for comb honey?" The answer has usually been that the eight-frame L. hive or the ten-frame Danzenbaker is recognized as the proper size. Others contend that these hives are too small for a prolific queen to lay to her full capacity and yet have room in the hive for ten or fifteen pounds of honey and a frame of pollen which are necessary for the best results. Now, both of the above claims are entirely correct; but it will be seen that, if the same size of hive is used for brood-rearing and for comb-honey production, you can not have the advantages of both the large and small hive. I wish to state here that the person who uses one size of hive for both purposes is not getting out of his bees what he should.

Some time ago I described in GLEANINGS how I used two hive-bodies for brood-rearing and then reduced to one for the honey-flow. This system was good; and when it came to getting a host of bees on deck at the critical moment it worked to perfection. But it had several drawbacks when running on a large scale. When it came time to put on supers it was a job to open hives and put all brood in one body. And then some of the hives I took off had brood in them. This had to be looked after. Then a lot of the honey in these extra bodies was unsealed honey. This had to be put on a hive or it would have soured.

The system I have used for two years back has all the advantages of the above, and none of its disadvantages. Instead of using two full hive-bodies I use one Danzenbaker hive and a shallow super filled with extracting-combs. When raising brood before the honey-flow this super is on the hive, and the queen has full sway, and can lay in the hive-body or upstairs as her royal highness wills. Now, the swarming season comes on just after the flow starts; and unless one has plenty of room for the queen to lay, as well as room for honey, swarming will be the result. But leave this on shallow extracting-supers till the bees are busy gathering, and then raise it up and put the comb-honey super on between the extract-



ONE OF JAY SMITH'S HIVES, SHOWING EXTRACTING-COMBS AT THE SIDE OF THE SUPER, A LA TOWNSEND.





THEY WORK WELL STARTED IN THE EXTRACTING-COMBS AT THE SIDE OF THE COMB-HONEY SUPER.

Note that the row of sections just back of the extracting-frame is also well along, and that the second row back is started.

ing-super and hive. As will be seen, this gives more room right in the middle of the brood-nest; and instead of cramping the bees, and forcing them into the supers and forcing swarming when the super is added, it really gives more room and checks swarming. The bees will at once begin drawing out the foundation; and as soon as this is nicely begun, the comb-honey super should be brought on top of the extracting-super, or there will likely be pollen and possibly brood in the sections. After this is done, a queen-excluder should be put next to the hive-body or the queen will again occupy the extracting-super. In a short time all the brood will be hatched in the extracting-super, and it will be filled with honey, and capped. It should then be removed and extracted. The comb-honey super will have work well advanced, and this is then placed next to the hive, where it will be finished in a hurry without any light-weight sections.

As soon as the flow is over, the empty extracting-super is placed on the hive again, and the queen at once fills it with eggs. If the prospect is good for a fall flow, the above plan is again carried out. If not, they are left just as they are all winter. The super is filled with dark honey, and the bees arrange their nest for winter. They usually form their cluster so that the space between the super and hive-body comes right in the center of the cluster. This gives them the best of communication with each other all winter. They also have a lot of honey so they will not be stingy with it when they need it for brood-rearing in the spring.

I see some writers think that bees rear brood just the same whether they have one pound of honey ahead or twenty-five. It seems strange to me that they would accuse the bee, that is considered the most intelligent of all insects, of raising a lot of young bees to use up the last drop of honey and then starve to death! I know from experience that they very carefully keep account of the stores ahead, and raise brood accordingly; and with plenty of comb space and honey it is surprising what they will do in the way of bringing a lot of bees on the scene just when they are needed.

I wish to protest against another statement that has been made several times, although I can not recall when. Several have said that if one extracts from black brood-combs the honey will not be as white as from new white combs. My experience proves to me that there is no ground for that statement. I will give one of my experiments. I picked out ten of the blackest brood-combs that I could find, extracted the honey, and put it in glass jars. Then I thoroughly cleaned the extractor, and extracted from ten new combs as white as snow. I set these jars with the others; and when I went to compare them I was unable to pick the last ones out of the lot. I compared the color and tasted of the honey, but could see no difference.

I have been using Mr. Townsend's plan of putting extracting-combs at the outside of the sections, and feel that in this Mr. Townsend has given the bee fraternity a most valuable kink. In the engraving will be seen a super just set on the hive. The bees

immediately take possession to clean it up. They will at once go to work and store honey in the comb. The other picture shows the work as it progresses. The outside extracting-frame is partly capped. The comb-honey section next to it has honey in it, while the third has work just commenced. After the bees begin in the center ones they will push the work there a little faster, with the result that the entire super is finished at once and can be set aside for market without sorting.

I am running eighty colonies on this plan this year, and I have never had a single case of loafing, and the bees work with all the energy they possess. When I read of some who let the hive-body get clogged with honey, and the bees cluster out, and they "shake" energy into them, I thought the bee-keeper was the one who needed shaking instead of the bees. With the above system I usually have about six per cent of swarms. This was the worst year for swarms I ever had, and the per cent of swarms was ten. Vincennes, Ind.

#### AN OPEN-AIR COLONY IN MICHIGAN.

BY A. H. GUERNSEY.

On Sept. 6, 1909, hanging on a limb  $1\frac{3}{4}$  inches in diameter and 43 feet from the ground, I found a large swarm of bees which, without protection, had built combs two feet long and 13 inches deep. The combs were all covered with bees, and at first sight they resembled a young bear hanging with his back down. Two weeks later I went with my spring wagon, extension ladder, box, ropes, etc., to get it. I went up the tree, roped the limb properly so it would hang when cut off just as it was before, then sawed it off, and from where I stood lowered it slowly until it was near the ground. I then fastened my rope securely and went down. I placed a sheet of cheesecloth under the bees, wrapped it up snugly to the cluster, and tied it around the limb at both ends of the combs, so that no bees could get out; then cut the limb a little beyond the combs at each end. I put the whole thing in a large box and took it home, 13 miles, with the loss of but very few bees.

After I had the picture taken I gave an exhibition

on the streets and at several homes, and but few bees were lost.

I expect to hang this swarm out on a tree in the open as a curiosity. I never saw a colony before in Michigan that would thrive and do well without protection. In a warm climate, of course it is a common thing.

Ionian, Mich., Dec. 10.

#### CREATING A DEMAND FOR HONEY.

How the Bee-keeper can Direct the Attention of the Public to his Honey.

BY FRED WULF.

There is no one better adapted to the work of helping the local market and creating a demand for honey than the bee-keeper himself. I have been selling and peddling my honey for the last six years, and find it the



A. H. GUERNSEY'S HIVELESS COLONY.





FRED WULF'S HONEY DISPLAY IN A GROCER'S WINDOW DURING A CARNIVAL IN SONORA, CAL.

only way to get honey properly before the public. As some of us know, the returns are often very small when we ship honey into the large cities and leave it in the hands of the commission merchants. With some effort on our part we can easily sell our crops at home and get the best prices.

Well do I remember how hard it was for me, when I first started, to enter into the spirit of talking and get courage enough to go from house to house and show what I had to sell. Now I have a route established so that I know just where to go, and I am selling more than three times the amount that I sold at first. Question after question is asked—where the honey is produced, the reason why extracted honey is less in price, whether it is pure, etc. Some of these questions may be answered by the bee-keeper; but when it comes to making a general explanation, which I have found often takes fifteen minutes or more, I make use of the little leaflets entitled "The Food Value of Honey." Some people will keep on talking for a long time, and one of these leaflets is just the thing to hand to them.

I also get the storekeepers started. This I find as important as going out myself and peddling, for as a rule the merchant puts the honey on the shelf out of the way, and his customers see nothing of it, especially if it is *comb* honey. I always try to have the honey placed where it will be seen. This greatly increases the sales.

Occasionally I succeed in getting some merchant to make a display in the window, and this pays a big profit. Last fall during a carnival in Sonora, Cal., which lasted a week, I made a very attractive display of

an observatory hive of bees, and a house built entirely of comb honey. This attracted so much attention that the newspapers took it up. For instance, here is what the *Sierra Daily Times* had to say:

#### A HONEY HOUSE.

The honey house in the show-window of Michel's store is a wonderful thing, and should be seen by everybody. The frames of which it is composed, sides and roof, are of honey in the comb, unbroken and perfect. It is the work of F. Wulf, of Yankee Hill, and should be shown at the Portola as a Tuolumne Co. production.

Another paper had a picture of the honey house similar to the one shown in the accompanying engraving. The sections on each side were placed there to fill it out better. As the house stood in the show-window I had a round pyramid at each side. Over the door or entrance of the house I placed one of my regular honey-labels, on which were the words "Pure Honey from the Apiary of Fred H. Wulf, Columbia, Cal."

Columbia, Cal.

### BEE-KEEPING IN TENNESSEE.

BY A. L. BOYDEN.

If bee-keepers of the North, where white clover and basswood are abundant, or those bee-keepers of the great honey-producing States in the West, where the alfalfa and sage produce such wonderful yields, have an idea that the production in the South is insignificant, a visit to some of the leading fairs and expositions, notably those of Nashville, and Dallas and San Antonio, Texas, would correct such an impression. We read in the last census that about ten per cent of



the farms in the North Central States report bees while thirteen per cent in the South Central States keep them, and the number of colonies in the South Central States is considerably greater than the number of colonies in the North Central States. The number of pounds of wax produced in the South Central States was at least 50 per cent greater than in the North.

We read in the same report that the three most important States at the time the last census was made, taking the number of colonies as a basis, were Texas, North Carolina, and Tennessee.

It is true that, ten years ago, the careful attention was not given to the bees in Tennessee that was found in many other States; but, due to the efforts of the Tennessee Beekeepers' Association, a marked difference will be found in the report of the present census.

At the time of the last report, the State was credited with a total of 225,788 colonies, and the average in each county seems to be

2000 colonies. A few counties showed as many as 4000 colonies, and but few fall below 1000 colonies.

The efforts of the Tennessee Association, and of the superintendent of the apiarian department, Mr. J. M. Buchanan, have resulted in a most creditable display of honey, bees, and bee-keepers' supplies at the Nashville fair for several years past. The daily papers, in speaking of the display, spoke most favorably indeed of it last October, commenting on the fact that it was one of



APIARY OF J. M. BUCHANAN, FRANKLIN, TENNESSEE.  
Mr. Buchanan is regarded as a very successful apiarist.



ONE OF THE QUEEN-REARING APIARIES OF J. M. DAVIS, SPRING HILL, TENNESSEE.  
Queens from this yard are known the world over.



EXHIBIT OF J. M. BUCHANAN, FRANKLIN, TENN., AT TENNESSEE STATE FAIR, NASHVILLE, OCTOBER, 1909.

the most attractive exhibits on the grounds. As usual, the number of exhibitors was not large; it seems to be this way at most of the fairs, even where a liberal premium list is found. It is somewhat to be regretted that more bee-keepers do not interest themselves in making exhibits, for, even though the premiums awarded will scarcely pay for the time and labor expended, it must be remembered that in no other way can such an opportunity be found for educating the public regarding the use of honey.

Due to the efforts of the exhibitors and superintendent, a very fine general exhibit was found last year in the Agricultural Building at Nashville; and by the efforts of these same men and the Tennessee Beekeepers' Association, the Tennessee State Fair has adopted quite a model premium list. It is none too early for bee-keepers to begin to lay their plans for fall exhibits. A list of premiums awarded will, we believe, be of interest to readers, not only in Tennessee but in other States.

The following awards were made:

Best 10 lbs. of extracted honey in glass.

First premium, J. M. Buchanan, Franklin, Tenn.  
Second " N. O. Walker, Franklin, Tenn.  
Third " R. D. Buchanan, Franklin, Tenn.  
Fourth " J. J. Reams, Franklin, Tenn.

Best display of extracted honey, 50 lbs. or more.

First premium, N. O. Walker.  
Second " J. M. Buchanan.  
Third " J. J. Reams.  
Fourth " Ira A. Moore, Nashville, Tenn.

Best case of comb honey, 12 lbs. or more, quality and appearance to count.

First premium, J. J. Reams.  
Second " J. M. Buchanan.  
Third " R. D. Buchanan.  
Fourth " N. O. Walker.

Best display of comb honey, 50 lbs.

First premium, J. M. Buchanan.  
Second " N. O. Walker.  
Third " J. J. Reams.  
Fourth " Ira A. Moore.

Best 5 lbs. of granulated honey.

First premium, R. D. Buchanan.  
Second " J. M. Buchanan.  
Third " N. O. Walker.  
Fourth " J. J. Reams.

Display of labeled samples, showing honey from different kinds of flowers.

First premium, J. M. Buchanan.  
Second " R. D. Buchanan.  
Third " N. O. Walker.  
Fourth " I. A. Moore.

Best half-gallon of honey vinegar.

First premium, I. A. Moore.  
Second " W. M. Joseph, Nashville, Tenn.  
Third " J. M. Buchanan.  
Fourth " B. J. Fox, Nashville, Tenn.

Best display of beeswax, 25 lbs. or more.

First premium, N. O. Walker.  
Second " J. M. Buchanan.  
Third " R. D. Buchanan.  
Fourth " J. J. Reams.

Nucleus of dark Italians.

First premium, J. M. Davis, Spring Hill, Tenn.  
Second " B. J. Fox.  
Third " N. O. Walker.  
Fourth " J. M. Buchanan.

Nucleus of golden Italians.

First premium, B. G. Davis.  
Second " B. J. Fox.  
Third " N. O. Walker.  
Fourth " Ira A. Moore.

Nucleus of Carniolans.

First premium, J. M. Davis.



## Nucleus of Caucasians.

- First premium, John M. Davis.
- Second " I. A. Moore.
- Third " J. J. Reams.

## Nucleus of any other race.

- First premium, J. M. Buchanan.
- Second " B. G. Davis.
- Third " J. J. Reams.
- Fourth " I. A. Moore.

## Display of queens in cages.

- First premium, B. G. Davis.
- Second " J. M. Davis.
- Third " B. J. Fox.

## Best photograph of apiary.

- First premium, J. M. Buchanan.
- Second " J. J. Reams.

## Largest and best display of bees, bee-products, implements, etc.: exhibit to be made by individual bee-keeper.

- First premium, N. O. Walker.
- Second " J. M. Buchanan.
- Third " J. J. Reams.
- Fourth " B. J. Fox.

We believe Mr. J. M. Buchanan is again superintendent of this department; and while the premium list for 1910 may not yet be printed, it will undoubtedly be much the same as the above list for 1909, and information can doubtless be secured by addressing him. Bee-keepers who can do so should by all means encourage the superintendent and the State Fair Board by putting up a splendid exhibit the coming fall.

### A BALKY SWARM.

BY EDW. T. MURRAY.

I am sending a photograph of a balky swarm that one of my neighbors had last June. This was the second swarm that issued from an old Langstroth hive. The bees started to build comb on the outside of one of his empty hives. Later on they commenced work in frames that were inside the hive.

Torresdale, Pa.



A SWARM THAT INSISTED ON BUILDING COMBS OUTSIDE THE HIVE.

### OBSERVATIONS ON SPRING STIMULATIVE FEEDING.

When Bees Can Not Fly in the Spring, Stimulative Feeding is a Waste of Energy.

BY F. DUNDAS TODD.

That title is not right. You see I did not do any stimulative feeding at all, but I made a few observations which gave me food for thought, and I want to tell my conclusions to other people.

Most bee literature written on this continent is naturally from men who live in average regions; but the climate in this outpost is so different that we see things differently. It was somewhere in the Middle States that a little girl once said, "Just as soon as it gets warm enough to do anything it is too hot to do anything," which, by the way, is a rather neat way of expressing the sudden jump from winter to summer in most parts of the United States. In this part of the world, summer creeps upon us; one bee-keeper says spring here is a long-drawn-out agony. This year we had ten glorious days in the first half of March when the bees rushed in pollen at a tremendous rate; then for three weeks the weather was so cool, cloudy, or wet that hardly a bee left the hives. It may be safely said that, during that period, not a snap of pollen nor a drop of nectar was carried in.

On looking over the colonies on March 12 I found about a third of them rather short of stores, so I gave these a pint each of syrup, and no more have they had up to date. The very strongest colony was *in extremis*, living from hand to mouth; but it got to be the same as the rest. I had to go out of town immediately, so for a month the bees were run on the let-alone plan.

Now for the observations. In the middle of January I examined a hive, finding in one frame a patch of eggs that covered a space slightly larger than a dollar. On March 2 pollen began to be carried in, so on the 12th I overhauled every hive and found brood in every one that was queenright, ranging from two to four frames. The strongest hive, but a weak one in stores, had brood in two frames only. It was evident that egg-laying had started with the advent of pollen.

The next examination was on April 17, eight days after flight had been reestablished, and on this occasion I found that, with only six exceptions, the frames containing brood corresponded almost exactly with the number on March 12. Furthermore, as none were sealed the eggs must have been laid after the resumption of flight a week previously. The hustling queen had extended from two to six frames, leading the procession; yet in the matter of stores this colony was in bad shape, but strong in bees. The hive best provided with supplies, one of fair strength, had made no headway at all.

Here, then, is the noteworthy feature.

Brood-rearing, this spring at least, depended entirely on one fact. When flight was free the queen got busy; when it stopped, so did she. There was no question of pollen-dearth, as there was plenty of old pollen in the hives.

It is doubtless a good thing to have "millions of honey in the house" in spring; but when the bees can not fly, apparently they do not care to use it. So far as I can draw conclusions from this season's observations, I would rather have thousands of bees than millions of honey.

The principal conclusion I have arrived at is this: When bees can not fly, spring stimulative feeding, whether of sugar syrup or artificial pollen, or both, is a waste of energy.

I am aware that one swallow does not make a summer; neither is it safe to generalize from one season's observations; but, nevertheless, those made in a climate that is different from most are, I feel, deserving of record.

Victoria, B. C., April 26.

## THE ESTABLISHMENT AND MAINTENANCE OF A BROOD-CHAMBER.

### Eight vs. Twelve Frame Brood-chambers.

BY R. F. HOLTERMANN.

*Continued from last issue.*

In my experience with bees and the brood-chamber of the hive they occupy, I find certain conditions which govern. If I wish to establish a brood-chamber, there are conditions which have a bearing on that question. 1. The distance apart the frames are spaced; 2. The nature of the comb foundation used; 3. The number of bees with which it is established; 4. The amount of brood when a heavy flow begins; 5. The queen.

Now, I do not profess to name these in the order of importance. Such would seem to me to be something like solving the foolish problem often propounded—which is the most important, the hive, the locality, or the man? when any one of them left out would leave no problem.

1. The distance of spacing is important, I feel sure. Let me illustrate: In a super, combs may be spread so that ten combs occupy the space twelve normally do. But when foundation is used, bees come up, occupy, and build on that foundation much more readily when the spacing is normal than when it is abnormal. I use a brood-chamber spacing 17 inches inside the hive for 12 frames, using no follower, yet I am not prepared to say that slight variations from this will work any injury.

2. As to the foundation used, Jacob Alpaugh first directed my attention to this point, and I will give his words as nearly as I can recall them. He stated, "There are lots of queens condemned as not up to standard for laying, because the combs do not suit them. There are makers of foundation who, in the process of making, stretch the cells so that they are larger one way than

the other, or the foundation may be stretched in the hive through no fault of the foundation-maker. When this foundation is built out, the queen, from natural instinct, does not care to use them, and she loses much valuable time because she does not have suitable cells to lay in."

I heartily endorse this statement; and if the queen is to do her best, do not condemn her without a fair trial. The bee-keeper, not the queen, may be to blame.

3. In establishing a brood-chamber the nicest drawn-out comb can, as we almost all know, be secured by giving the bees no more room than they can well cover and draw out at one time. Bulging and uneven sections in supers, for instance, are often the result of too much room for the conditions which prevail when the comb is built out. The same holds good in a brood-chamber.

4. I aim at getting the brood-chamber well filled with brood before any thing like a heavy surplus honey-flow begins. With a good flow it is the tendency of the bees to fill all unoccupied space about the brood with honey, thus in a measure shutting off the opportunities to expand the brood-nest. True, some varieties of bees and some strains in perhaps all well-known varieties, will overcome this by prolific queens that either, by their own manifest energies or by that in combination with a trait in the worker bees, seems to gain ground with the brood and crowd the honey into the supers; but this process means a loss of time, and therefore lost worker bees later in the surplus honey-flow or for winter. For the same reason I avoid, in the honey-flow, taking combs of brood out of the brood-chamber and putting in their place empty comb, as, with a good strong honey-flow, these are often filled with honey.

For this reason, if a man has an eight-frame Langstroth hive, and he changes to a twelve-frame just at the commencement of a honey-flow, he may not get satisfactory results unless he has very prolific queens or a long honey-flow. He may even, unless he considers the honey in the brood-chamber, have a poorer honey crop. He can take a good eight-frame colony and add combs as wanted before a heavy flow; but with a heavy flow the bees may fill the added comb largely with honey. Where a bee-keeper establishes a large colony, goes into winter quarters with a twelve-frame colony instead of an eight-frame, and winters them well, he can then win out alongside of an eight-frame stock wintered equally well, and do it with less fussing and manipulation. If for any reason the colony lags in brooding or building up, as some may, no matter what the kind of hive, he can contract until a suitable opportunity offers for expansion.

5. The queen has already been referred to so often that nothing more need be said on this point.

In closing, let me say that the method of manipulating the supers has a bearing on



the maintenance of the brood-chamber, no matter what its size. Instead of violent breaks in the connection of the *established* parts of the hive, as prevails when the super next the brood-chamber is raised, I aim to take about half the filled or partly filled combs out, fill the vacant space with empty comb, then set the new super on top, having the empty frame above the empties below, and then take the combs which have been removed and put them above their former companions. This leaves the bees with an unbroken old and established connection to the top of the hives, and tends to crowd less honey into the brood-chamber. If comb foundation is used, the tendency to clog is even greater; but this is alike true with the small and the large hive. The eight-frame-hive man is no better off than the twelve-frame, on account of the tendency to set up the swarming impulse perhaps even worse.

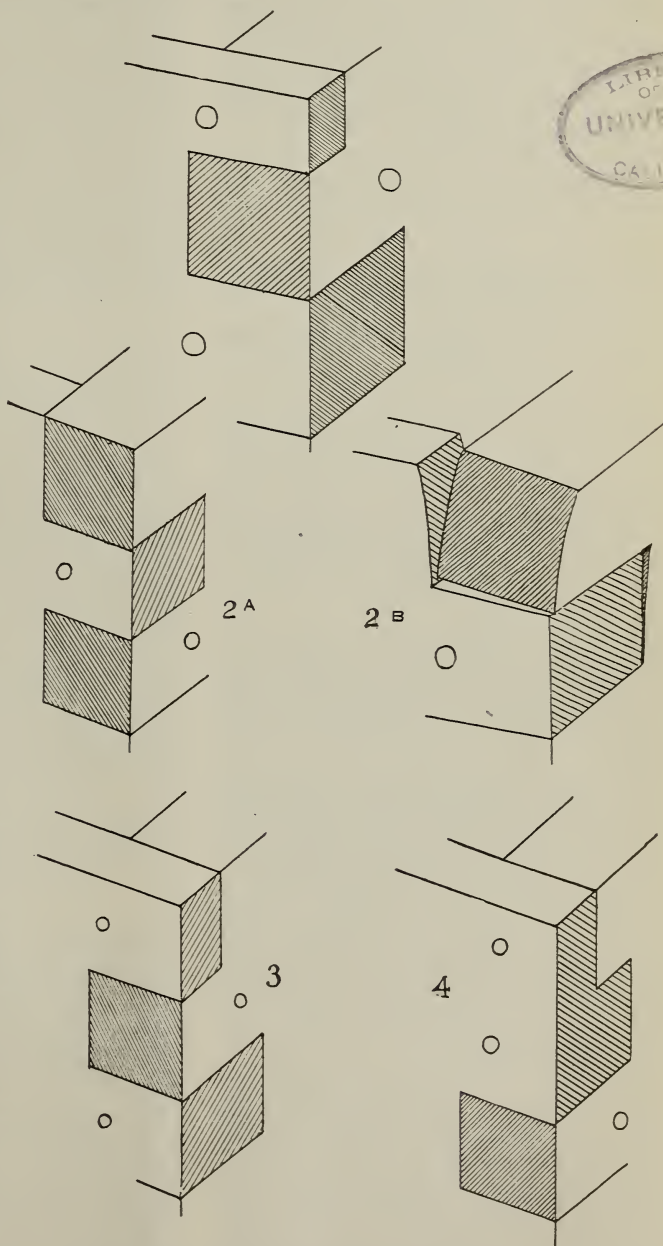
Brantford, Canada.

### THE RIGHT AND WRONG WAY OF MAKING THE DOVETAILED CORNER.

BY WESLEY FOSTER.

Ever since the dovetailed corner has been used in the making of hives, the manner of cutting the top corners so as to obtain the strongest joint has varied. The desirable corner is the one which allows the 8 or 10 penny cement-coated nails to be driven each way nearest the upper corner and into the  $\frac{3}{8}$ -inch wood. If an 8-penny nail should be driven through the  $\frac{3}{8}$ -inch wood at the top in Fig. 2A, the nail would be so close to the end of the wood that splitting would most likely occur in the first board; and the end of the hive, being only half-inch stuff at this point, would split, or the nail would run outside the wood unless driven very carefully. Most beekeepers who get hives made as shown in Fig. 2A do not drive a nail at the top, but as shown.

Then if they live in this arid country (especially) their hives look as in Fig. 2B. Bees easily start robbing at these corners, and mice often gnaw the holes larger and get into the hives. As soon as this spreading of the corner begins, the half-inch end-pieces down as far as the hive-rabbit split off very easily. I have had this happen in dozens of instances on both hives and supers.



THE PROPER WAY OF CONSTRUCTING THE DOVETAILED CORNER. FIG. 3 IS THE BEST FORM.



The strongest corner for a hive is shown in Fig. 3. Here an 8 or 10 penny nail can be driven within half an inch of the upper corner, while in Fig. 2A the closest nail to the corner is  $1\frac{1}{2}$  inches. Fig. 1 shows how a dovetailed super-corner should be cut so as to insure strength. Supers are handled on the hives and in the shop so much that the constant sliding of supers on top of others breaks the half-inch upper ends frequently unless nailed as shown in Fig. 1.

Fig. 4 shows another corner method of joining that is better than that shown by Fig. 2A, but inferior to Fig. 3, because the two nails at the top are driven the same way, and do not keep each other in place the way crossed nails do.

Boulder, Col.

[Nearly all bee-hive manufacturers now make hives like that shown in Fig. 3.—ED.]

### BULK COMB HONEY NO COMPETITOR OF SECTION HONEY.

This Kind of Honey Sells to a Different Class of People.

BY LOUIS H. SCHOLL.

The discussions on this subject, started by the writer several months ago, are growing more numerous. They are bringing out many good points. While a few have offered some severe criticisms, others are showing favor toward this kind of comb honey. It is evident from these, and the scores of letters received, that this favor is increasing, and that there will be quite a future for comb honey in cans.

Bulk comb honey must be understood. Its advantages of cheaper, more economical, labor-saving, and profitable production and marketing must be understood before a fair and square comment or criticism can be made.

The recent discussions and criticisms are in all respects the same as those we had here in Texas when bulk-comb-honey production was first launched, with this exception, that *they* were limited to Texas bee-keepers.

While it gained favor with only a few at first, and was severely criticised and condemned by some, it was not long before its advantages in production over section honey were so plain that section honey vanished almost entirely, and this change has made our State famous for its bulk comb honey, and has put Texas bee-keeping on a more profitable basis.

We do not bespeak such a change for the North. We can say, however, that there would be many advantages gained if our method of comb-honey production were more generally adopted. What would it mean? Not only a more economical method by which larger yields of comb honey could be obtained, but even more than this. If, together with its manner of production, some of our methods of marketing were adopted also it would mean a more general

distribution of honey, an increased demand, and a better price. What more could one wish at this time when the cry of low prices of honey is in the air?

We know that a more general distribution, such as getting honey into homes where none is used now, or getting more in where only a little is used, would mean more for raising honey prices than all the other things combined. It is, then, our duty to look toward producing something that the masses can and will buy; and bulk comb honey helps much in this respect.

It is well known that most people prefer comb honey, not on account of a fear that extracted honey is adulterated, but because comb honey appeals to them most, and it is more like the real thing, especially if they remember the rich golden comb honey of a bee-tree, or that obtained from box hives at the old home. Section honey can never compare with that; and, besides, the price is out of the reach of the majority; and the honey from the bee-tree, log gum, or box hive, was "chunk" honey. Is it not natural, then, that bulk comb honey can be made to take its place, and profitably too? Of course, we do not claim that bulk comb honey will take the place of section honey. It need not, for there is an entirely undeveloped field for bulk comb honey among that great mass of people who can not afford the price of section honey, and who, at the same time, do not want extracted honey. There are thousands of homes where bulk comb honey can be introduced where no honey of any kind is used now. The home market needs only to be studied a bit, and every bee-keeper will agree with me that wonders may be wrought by selling more honey at home, keeping it off the glutted markets, and thus bringing up the prices to a point where they ought to be. Here is where bulk comb honey will find a great future, despite the few objections now raised against it.

New Braunfels, Texas.

### LARGE ENTRANCE FOR WINTERING.

Honey-dew for Winter Stores.

BY A. W. FOREMAN, M. D.

Last year was the worst one for honey I have ever known. My bees got nothing but honey-dew, and in consequence I fed each colony about 15 lbs. of a combination of two parts sugar and one of honey. All entrances were left open full width of hive. Result, not a loss out of 13 colonies. I had a neighbor who had about 75 colonies. He fed none at all, claiming that he could not afford to do so. Result, I am informed he lost about 60 colonies.

About winter entrance, I have never believed in the necessity of greatly diminishing it.

Many years ago I knew a farmer who kept bees in oblong box hives made of boards about a foot wide and about two feet long.



These boxes stood on end and had legs nailed on the corners, and stood on these legs seven inches from the ground. I have often seen the bees pouring in and out of those hives during the working season. I do not remember having heard any complaint about their not wintering well; but I do know that, in my many professional visits to this house I often observed the bees as stated above. Of course these hives, being something like ten inches square, and more than twice that height inside, the bees had an opportunity to retreat high up away from the open end to winter. These were the common old black bee, so it does not seem necessary for bees under all conditions to be closely boxed in.

White Hall, Illinois.

[In times past we have had a number of reports showing good wintering in box hives with the bottom entirely open, or the sides shaky and full of holes; but black bees in box hives do die, so that we have not attached a great deal of importance to these exceptional cases.—ED.]

## TWO TWO-YEAR-OLD QUEENS WINTERED TOGETHER IN THE SAME HIVE.

BY WM. A. STEWART.

I usually buy a few queens in the fall to supersede those that are more than two years old, and any that have not done well. Last fall I removed a very poor young queen from a colony that had superseded, and at different times introduced two old rejected queens that I had taken out of other colonies. The experiment was rather an accident, for the first one was so hard to find we thought she had been killed.

On March 24 (a very warm day) we opened this hive to look for brood to give to a queenless colony, and on two adjacent frames of brood we found these two old clipped queens. One of them was introduced in a queenless hive, and in nine days she had brood and eggs in three frames, while the other queen was left to do business at the old stand. So far as I have been able to learn, this incident of two *old* queens wintering together is unique.

Mr. Alexander, I believe, was not successful in wintering a plurality of queens; and Mr. Beuhne, of Australia (page 1203, 1908), separated old queens with excluders when he put two in one hive. He says, "You must have considerable difference in their ages before they will work together." The incident, however, suggests possibilities worth following up.

While I believe in superseding old queens, as a usual thing I do not find that they have any certain specified age for dying. For example, this spring all of our fifty hives had live bees in them, and only two were very weak; but five were queenless. Of the missing queens, one had presided over her colony since September, 1906; two since June, 1908; one since June, 1909, and the other

was a young queen supposed to have been successfully introduced last fall. The only queens we have that will be three years old this summer are the two that wintered together. This is not a very good showing for the age theory. Now, if we can find a way to winter the two-year-old queens without risking too many colonies, so that they can be given to queenless colonies in the spring, they will be about as valuable as young ones, for they are likely to be superseded in the coming summer.

If any one has wintered old ones in plurality, to give them another chance in the spring, I should like to hear from him. The nearest thing to it I find is from Elias Fox, p. 42, 1908, who found two *young* queens of the same age in a hive in the spring.

Our bees were wintered on their summer stands in Danzenbaker hives with a packed super. They had been flying, and visiting flowers (chickweed) for three days about Thanksgiving. A month after, the two queens were introduced, and flying again four or five days the first week of March; also, just before they were found, the bees had been flying for about a week. They were carrying pollen, and had about four frames of brood, so that both queens and workers had abundant opportunity to know all that was going on in the hive.

Elkin, Pa., April 8.

## BEE-KEEPING IN SOUTHERN MEXICO, CENTRAL AMERICA, AND SOUTH AMERICA.

BY W. K. MORRISON.

About how much would it cost to ship honey from any one point in these countries to the States, per cwt? Are the common black bees native to those countries? If not, can these Germans and Italians stand the heat of the equator? Does foul brood exist in those countries? Most of the hardwood trees of the tropics are good honey-yielders, are they not? Are the swamp lands of the tropics good honey countries? In general the countries having the most rainfall would yield the most honey, would they not? How are the local markets in the above countries? Do the natives of the more uncivilized countries keep bees to amount to any thing? Do you have a supply depot in any of those countries? Where can I get more information along these lines? Any information you can give me will certainly be highly appreciated.

Ida Grove, Iowa. FRANK DAMEROW.

In reply to the above I would say that bee-keeping is profitable in certain parts of Mexico and Central and South America, but it varies very much, even in the course of a few miles. Rainfall makes the difference. For example, in the small island of Porto Rico the rainfall in one locality is about 150 inches per year, whereas it is not more than 30 in another locality not more than 40 miles away. It is about the same

in Jamaica. In some places the conditions are quite healthful, when a short distance off the opposite is the case. That is so at Panama. At Panama City the climatic conditions are excellent, while at Colon it is not healthful for a white man.

Down in these countries no one thinks of sending honey to the United States, for the very good reason the prices of honey are too low. By shipping to Europe they can do very much better in every way. In shipping beeswax there is a difference of almost 10 cents a pound in favor of Europe over America. The chief honey-exporting country of the world is Chili, which sends vast quantities of honey and beeswax to European ports. They would never think of sending either honey or wax to the United States. Peru is also an excellent bee country; and, though the finances of the country are managed by Americans, they, too, ship to Europe. The firm of William R. Grace & Company, New York, are the agents for Peru in this country. The railroads are owned by Americans. Americans also control the railroads of Ecuador. In the other countries of South America we cut no figure.

Venezuela and Colombia are excellent countries for any American to stay away from, and Bolivia and Paraguay are too remote. Chili is pretty well taken up by bee-keepers, so there are left Brazil, Uruguay, Peru, and Argentina. There is a bee journal in South Brazil, and I think there ought to be a good opportunity for a first-class bee-man in the vicinity of São Paulo. The city of São Paulo is up-to-date in all respects, and has a population of about 65,000. There is also a chance at Rio Janeiro, the capital of Brazil. It has nearly 9,000,000 people and is a beautiful modern city. Buenos Aires has about 1,000,000 people, and resembles Paris in every way. There ought to be a good opening there for a live bee-keeper catering to fancy trade. Argentina has vast cattle estates planted to alfalfa, so the opportunities for a honey crop are good. Something might be done at the City of Mexico; also at the City of Panama.

Freight rates are so low that they cut no figure in large shipments; but one should always be near a seaport, for many reasons.

None of our bees are natives of South America. In the strictly tropical sections our bees die out at once unless carefully protected by mankind. Stingless bees in vast numbers occupy the tropical and sub-tropical parts. Where the rainfall is very heavy our bees can not be said to succeed at all. There are some of our bees around Caracas and Bogota, but only on high ground, and when carefully looked after. In Demarara (British Guiana) the bees are all of the Italian variety. Our bees do well in the two most southern states of Brazil, Rio Grande do Sul and Santa Catharina, and in Uruguay, Argentina, Chili, and the dry parts of Peru.

Yes, foul brood does exist in some of these countries, but not to any alarming extent.

The more prominent tropical trees do pro-

duce nectar, some very liberally. Among these are teak, rubber, mangrove, logwood, mahogany, and most fruit-trees.

Swamp lands are not good for bee-keeping. By far the best locations for bees are where the rainfall is light. Sections that require irrigation are best.

There is a splendid honey country in Mexico, just across the Rio Grande from Texas, where it is semi-arid. Perhaps the best honey region in the world is Baja California, where the rainfall is about 10 inches per annum. I would not again try to keep bees where the rainfall exceeds 60 inches. Speaking broadly, the less rain, the better it is for bees.

So far as local markets are concerned I do not think much of them. At certain points there are German, English, and Dutch traders who ship honey and beeswax, and pay cash for either. They will even extend long-time credit when they know you, and dealing with them is a pleasure.

In Venezuela, Colombia, Ecuador, Peru, Bolivia, Paraguay, and the valley of the Amazon, the *natives* are of the same race as our Indians, and you know the rest. When you see American newspapers referring to these people as "Latin-Americans," just smile. Costa Rica has a fair-sized white population, but it is an exception to the general rule. Needless to say, there is very little trading with such people. Many tribes have an unconquerable hostility to white men—for good reasons.

Yes, there are bee-supply depots at certain points. I think German firms supply the trade in Chili and Peru, and partly in Brazil and Argentina.

Most of the countries I have mentioned supply emigrants with first-class guide-books and maps. You can get such literature from the legations of those countries who maintain ministers or ambassadors in Washington. Some of them offer very enticing inducements to people who intend to settle on public land. Chili, Argentina, and Uruguay are probably the best in this respect. They are more generous than Uncle Sam himself. Mexico also offers inducements, more particularly in the territories of Tepic, Quintana Roo, and Baja California. But Mexico has much territory suitable for bees. Campeachy and Yucatan are the homeland of the logwood-tree, which blooms after every heavy rain, and supplies much nectar. In fact, the most common name of the logwood in Spanish and French is Campeche, pronounced *Campeach*. It grows on land with a coral formation, only a few feet above sea-level, with a thin layer of soil. Rain water disappears at once, which makes the country fairly healthy. If you were to locate in Lower California your chances would be brilliant. The honey crop is large and certain, the quality high, the selling easy, as it can be sold in San Diego. There is also a good chance at Monterey, where many Americans flock to in winter time. You have a vast region to choose from, and a selection is not easy.

San Diego, Cal.



## BEE-KEEPING IN THE SOUTHEAST.

### Chinkapin and Partridge Pea as Honey-plants; the Former a Great Honey-plant.

BY J. J. WILDER.

Along the high ridges of middle Florida will be found these honey-plants in all their glory, growing along together, and literally covering a large territory of the earth. The two plants are about the same in height—from 12 to 36 inches. The chinkapin springs up from roots and nuts, and the partridge pea from its peas. Both make their appearance about the same time in early spring, after the forest is burned. This kills the previous season's sprouts of the chinkapin back to its roots, causing it to spread more rapidly. By the first of May it is perhaps two feet high, and begins blooming, and is a solid cluster of bloom along the sprouts near the tops. It continues to bloom until about the first of June, and yields from 30 to 50 lbs. of honey per colony. The honey is blood color, but not at all wholesome. It is shipped to the northern markets in extracted form, and brings about 5 cts. per lb.

The partridge pea begins yielding about the middle of June, and lasts until October. During its flow, bees usually store about 100 lbs. per colony of comb honey, which is nearly water-white and of very fine flavor.

The peculiarity of this great honey-plant is that it does not yield its nectar through its bloom, but at the base of each leaf. On the top of the stem of the leaf is formed an oblong cell large enough to catch and hold a drop of nectar. This is very striking in early morning and late in the afternoon, but is reduced to about half its size during the middle of the day unless it is cloudy, when the drops will stand out prominent the entire day. Nothing interferes with its yielding throughout the season.

The greatest wonder is that bees do not gather a much larger amount of honey from this source. For fifty yards or more the cells of nectar can be seen sparkling like dewdrops in early morning. During the night the nectar will collect in the cells in such quantities that drops will leave and run down the stems of the leaves, on the limbs and main stalks, and wet the ground for an inch or more around the base of the stalks. It would take 1000 or more colonies in one location to save this great supply of nectar.

Mr. R. W. Herlong, one of the leading bee-keepers in this territory, is located at Fort White, Fla. His home apiary consists of about 200 colonies, located in single rows about 30 feet apart, shaded with boards. Mr. Herlong operates about 20 apiaries, and produces several carloads of honey each season. He is with the bees over eight months in each year, of which nearly six months is a honey-flow. He puts in from 14 to 18 hours of hard work each day, and perhaps this is why he is one of the few bee-keepers who have attained a great success. He does not manipulate frames, although he uses

the eight-frame Dovetailed hive. He claims that frame manipulation did not pay him when he had a small business, and that he hasn't the time now.

Cordele, Ga.

## INTRODUCING A QUEEN TO A FEW BEES AND THEN TO THE ENTIRE COLONY.

BY E. L. KIMBALL.

We have been interested in the various articles appearing in *GLEANINGS* in the last few months on introducing queens, and also in E. R. Root's article on the method employed by queen-breeders in putting up bees to be sent by mail. Those who are afraid of the stings may be interested in the method we have employed in putting bees into mailing-cages for introduction in our own apiary. Taking a cage made of a coil of wire cloth, about  $\frac{3}{4}$  inch in diameter, which has each end stopped with a wad of tissue paper, we go to the hive where it is desired to supplant the queen, and find and kill her. We then remove the tissue paper from one end of the coil cage, and, by scraping along the tops of the frames or some other convenient place, scoop into the cage as many bees as possible. This coil cage containing the bees is then placed in a dish or on a board right over a few drops of honey; or a few drops of honey are placed on one of the paper stoppers next to the bees so as to give the bees in the cage access to the honey. By the time the queen that we desire to introduce has been secured from another hive, and placed in this cage with the strange bees, all of these bees have had their fill of honey. These few uniformly accept the queen, and, as evidence of the fact, they immediately proceed to feed her. If we are not in a hurry, we pause a minute to watch this performance, which to me is one of the most interesting sights connected with bee-keeping.

Next, removing the paper stoppers of the coil cage one at a time, inserting a round stick slightly smaller than the wire cage into one end, and placing the other end over the open end of the mailing-cage, we gradually contract the space in the coil cage and gently crowd the bees and queen from the coil cage into the mailing-cage. The entrance of the mailing-cage is then filled with candy, and a small piece of comb-honey section is also nailed over it. The mailing-cage is then placed in the colony where it is desired to introduce the queen. After 18 to 24 hours the piece of section is removed, and the bees then make short work of liberating the queen, as only the candy obstruction remains. In this way a colony need not be without a queen over 24 hours. We have used the plan on a small scale for three years, and have always found it successful when carried out as above indicated. It is not necessary to take pains to select young bees to place in the cage with the queen if the bees are given an opportunity to fill their honey-sacs with honey.

Duluth, Minn.

## Heads of Grain from Different Fields

### Does a Swarm Without a Queen Ever Remain Hived?

Reading Doolittle's comments regarding a part of the swarm returning to the old hive, page 425, July 15, 1909, brought to mind a question over which I have puzzled somewhat. Do bees ever swarm and remain in a new location without the queen? A year ago I would have said no, unhesitatingly; but now I am not so sure about it. Last summer we had but few swarms, but, as usual, had a few hives piled up ready for use if needed. One day after scouts had been working about the entrance of one of them for some days a large swarm came from a distance and entered the hive. The swarm was so large that it was difficult for the bees to get into the hive, and I expected good results from so large a swarm early in the season. They set to work vigorously and built new combs, and were filling them rapidly when I first looked into the hive a few weeks later. The surprising thing, however, to me was the fact that no young bees were present in the hive, and all the brood was drone brood scattered about in the irregular way that unmistakably meant laying workers.

Seeing that the case was hopeless, since the working force had been very largely diminished during the honey-flow, and with no new bees to take their place, I set them over another swarm in order to save the few bees remaining. I should like to know whether any similar case has been observed, and whether the veterans can account for this in any other manner than the swarm coming off without the queen. In this case the bees entered the hive themselves without assistance, so there is no reason to believe that the queen might have been killed or injured by that operation; and had she been, the bees would likely have returned to the old stand. I believe that

#### DR. MILLER'S PLAN FOR SWARM CONTROL

is about the best I have read. I thought I had one about worked out with less labor. However, this season I have nearly 100 per cent increase, which indicates that I am on the wrong track and will have to go back and begin over.

#### STARTERS USED BEFORE THE FLOW BEGINS IN EARLY-NEST.

On the question of starters I realize that I am not quite orthodox; but so far as I can see, there is very little difference in results where bottom starters are used and where nearly or quite full sheets are used above. Then I use small starters at the beginning of the season, for quite frequently the flow starts so slowly that the bees will tear down the starters before work begins. Later, when the flow is on in earnest, of course the larger the starter the better the result.

#### NO NEED OF WETTING SECTIONS.

I notice some comments on the best method of wetting the groove in the sections. For some time past I have not wet them at all, and find that, by using No. 1 sections, there is practically no breakage, and the work is much more satisfactory. I think that, without wetting, we do not break half a dozen sections per thousand, and we broke as many when wet.

FRANK C. PELLETT.

Atlantic, Iowa, July 21, 1909.

[The fact that you found no young bees and only drone brood does not prove that a queen did not go with the swarm. The strong presumption is, that one was present when the swarm went forth, and continued with it until it found its new quarters. The queen probably died from some cause almost immediately after she and her bees got in their new home. It is safe to say that no swarm would go far without a queen.]

In regard to the need of wetting sections, a good deal will depend on how long those sections have been made—that is, how *dry* they are. When sections are freshly made, or when the atmosphere where they have been stored is moist, probably no wetting will be necessary. Sections stored in a room heated by furnace or steam will require to be moistened at the grooves.—ED.]

### To Prevent a Swarm from Issuing while Another is in the Air.

In my early experience I often had trouble with two or more swarms issuing at the same time and getting mixed up. This I find can be avoided by always having my smoker ready at a moment's notice. As soon as I see a swarm issuing I go into the yard; and if I see another swarm issuing I give them a good "drubbing" with smoke, and then they will not come out. I have used this plan for a number of seasons, and have never seen it fail.

#### WHAT TO DO WITH AFTER-SWARMS.

After-swarming is another thing that is often very perplexing to the beginner—how to prevent it or what to do with little worthless after-swarms. My plan may not be new nor the best, but I find that it works well and is quite simple. Hive the after-swarm in a super; take it back to the parent hive; place it over the old hive with a sheet of newspaper having several pencil-holes punched in it between, and the bees gradually filter through and seem to lose their identity. In three days I remove the super if the old hive does not need it, and things move along as if nothing had ever happened.

A gunny sack tied to a hydrant which is allowed to drip constantly makes the best watering-place for bees I have ever found. The water is always pure and thoroughly aerated, and no bees get drowned.

Rising Star, Texas, May 3.

J. W. BOASE.

### The Bees of Shaded Colonies Work Right Along During the Hottest Part of the Day.

The past season I had six colonies that were so shaded by apple-trees that the sun shone on them only a few hours in the late afternoon, and, strange as it may seem, these were the colonies that gave me the most honey the past poor season. While it is true that colonies that are out in the sun work somewhat better early in the morning, I am convinced that the shaded colonies make up for the loss during the hottest part of the day. I have noticed again and again, no matter how hot and sultry it was, the shaded colonies worked right along, while those that were out in the scorching sun did not work nearly as well from noon to two o'clock. Then the shaded colonies did not make preparations to swarm as early as those that were out in the sun; in fact, some of them never tried to swarm, and, consequently, they were the ones that gave me the most honey.

La Crescent, Minn., Feb. 23. G. A. BARBISCH.

[Your experience seems to be the opposite of most others, if not all others, that have reported. This is an important question, and we hope others will report.—ED.]

#### Yellow Sweet Clover in Kansas, etc.

Yellow sweet clover commenced to bloom here the last week in April. It is in full bloom now, and all kinds of stock like it. As for pasture, sown with alfalfa it prevents bloat. All missed places and alkali spots I sow with it. I have four acres of it. I think it is next to alfalfa for pasture and forage crop. I sowed a bushel of alsike for pasture this spring—the first I have tried. I put it on bottom land. They say it does better there than on upland. The yellow sweet clover does not grow as rank as the white, and makes better pasture.

Concordia, Kan., May 11. JOHN W. WILSON.

#### Old Foundation Just as Good as Fresh.

In regard to old or new foundation, I will say my experience shows the old is just as good as new—that is, I always begin putting foundation in the sections in the fall and winter for my next season's crop. I almost always have to put in a few the next spring, and I can't see any difference. They work on one just as well as the other.

Luce, Mich., May 9.

W. CRAIG.

#### Silverhull Ahead of Japanese Buckwheat.

As regards Japanese buckwheat, page 250, it has been strictly out of it for years in this neighborhood, as it does not yield as many bushels as the silverhull, and the local mill and buyers prefer the latter variety.

Coleman, Mich., April 28.

F. H. CLARK.



## Our Homes

By A. I. Root

Whatsoever a man soweth, that shall he also reap.  
—GAL. 6:7.

From a recent number of the *Sunday School Times* I clip the following:

### WHAT WE SEND CHINA.

The Great Northern Steamship Minnesota at Seattle, June 2, on the sailing-day, carried to Japan and China twenty millions of cigarettes and a little group of returning missionaries. One of the awful demoralizing influences to-day in China is forced on them by the makers of the many brands of cigarettes, who come from Christian lands, each vying with the other in a ruinous trade.

Twenty million cigarettes! and on the same ship with them a "little group" of returning missionaries; and our United States is permitting this thing to go on. What does it mean? We are making great progress—yes, *wonderful* strides—in science and art, and recently along the lines of protecting the health and well-being of our people. The Food Commission is doing a wonderful work in demanding that all kinds of eatables to be found in our groceries shall not only be honest in weight and measure but free from adulterants—especially adulterants that are harmful to the purchaser. Our babies are having better *milk* than they ever had before, and thousands of little lives are being saved, and their little aches and pains are being banished. May God be praised for what has been done along this line. Yes, the *honey* that is now being produced and sold, not only every day in the year, but sold in almost every corner grocery, is *pure* honey—no more adulterations with glucose. Thank God for *that*. Our butter and cheese (and canned meats) are more healthful and wholesome than ever before. There is some grumbling, it is true, because they cost *more money* on account of the strict laws passed by several States and by the general government of the United States; but where *human life* is being imperiled we can well afford to *pay* a little more money. As a result of the teachings of Terry, Fletcher, and others, we are preventing sickness, pain, and death, and doing it, too, without the use of drugs and powerful medicines. Once more may God be praised that we seem to be getting out of the darkness of ignorance and superstition and into the glorious light of true science and a better understanding of God's laws.

Now, notwithstanding all these great reforms, our government is pushing (or is *permitting* the pushing of) the hellish cigarette traffic into "heathen" China and Japan. Hold on a bit! It will hardly do to put Japan side by side with China; and, by the way, why does not Japan, with the wonderful progress she is making, and the example she sets other nations in sanitary matters, bar out American cigarettes? God knows how I dislike the very thought of

war; but if nothing but war will stop this awful traffic, I should like to see Japan wage war on the United States. More than that, I should rejoice to see her come out victorious. Yes, I would go still further. I would see her trample the stars and stripes under foot, until our people will bestir themselves and hoist a "stainless flag."\* Let us look at it again. Twenty million cigarettes on the same boat that carried missionaries to China and Japan. By the way, the *Sunday School Times* took the clipping I have quoted from the *Christian Herald*. At first I thought it might be a mistake. About a year ago I gave you an extract from a letter written by a good woman who was a missionary in China. She told us how the missionaries, when they converted Chinese, tried to stop the sale of cigarettes, especially their sale to little children in a certain town in China. But the American Tobacco Co. succeeded in stopping the missionaries on the plea that they were "interfering with trade and commerce in China." They even compelled the Chinese officials of that town to take down printed notices that had been put up, cautioning those poor ignorant people of the dangers of the American cigarette.

I once before asked the question, "How many of the legal voters here in our own country are in favor of the cigarette business?" I said not one in ten; but after my estimate I received several letters to the effect that there might be a great deal larger proportion in favor of the cigarette traffic; but if it were made a matter of *local option*, I feel sure the small towns and country precincts would vote out the traffic by a *tremendous* majority. How is it, then, that we fail year after year—that is, so many of the States fail? Thank God, there are a few States that enforce a severe penalty against the sale or use of cigarettes. It is because the rich manufacturers make and enforce our laws *in spite* of the protests of the people. May God hasten the day when the *mothers* of our land can have a chance to vote on tobacco and whisky, if nothing more.

Once more, let me ask why it is that, with all the rigid investigation into every thing that concerns the health of our people, cigarettes, tobacco, and whisky are passed by and overlooked? I do not exactly know who is responsible for it; but there seems to be a general consent among our officials who stand away up in the affairs of government, that the liquor business or any thing connected with it must not be touched, on the ground that it would "interfere with trade and commerce." It has been suggested that even the *President* of the United States is not permitted by those round about him to say a word in his annual message in regard to the traffic in the baleful thing that amounts to more in a year than our schools,

\* In olden time God permitted his chosen people to be taken captive to Babylon because his holy laws were set aside by that nation. In the same way our nation will surely lose its standing and power unless these terrible sins and crimes are put down.

churches, and every thing else that is good and pure and holy in God's sight.

You remember our talk about corn, and how it has been demonstrated again and again that a little scientific work in select-our seed corn will add bushels and dollars to the corn crop. Last fall we went over our field corn just before cutting, and selected four bushels of nice ears, taking each ear from a hill of four good stalks. A few days ago I picked out five kernels from each ear of corn, and planted them all in the greenhouse, numbering the ears from one up to about a hundred. As the corn was kept carefully all winter near a steam-pipe, almost every one of the 500 kernels sent up a good strong shoot. At first I began to think my test was useless, for *every kernel* was going to grow. At the final examination, however, I found a little more than 12 ears where only four kernels grew instead of five. The fifth one had rotted, or was very slow in starting. By discarding these ears our seed corn planted had an excellent chance of having *every kernel* that we plant have good strong vitality. It is not only the farmers here up north, but the gardeners down around Bradentown, Fla., who have just discovered that it pays, and pays tremendously, to have the very best strain of seed that can be produced. We used to have our crop injured sometimes in the fall just *because* of a lack of good seed. Our leading seedsmen have of late caught on to the importance of furnishing particular customers nothing but the very best. In market-gardening, raising chickens, horses, cattle, or pigs, we are making great progress. The government is issuing bulletins, and the separate States have other bulletins, giving the farmers the benefit of the very latest scientific investigation; and our experiment stations and agricultural colleges and universities have done likewise. Now just wait a minute. On page 613, Oct. 1, last year, you will find in fine print the following:

There are two widely prevalent diseases, both contagious and infectious, that are causing untold human misery and loss of life, and *nothing* is being done to prevent them.

After that was printed I suggested it must be a mistake. It seemed to me incredible that *nothing at all* had been done in the way of prevention. The above statement came from the Ohio Board of Health, and so far I have not been able to find there was any mistake about it. Our nation and our separate States, as I have said, are doing wonderful things to improve the health of our horses, cattle, and pigs, but nothing as yet to protect our children along the same line. Of course, we are giving children better health, and we have stopped to a great extent giving the baby "soothing-syrups" containing morphine and other baleful drugs. And this paves the way for me to tell you something that perhaps not all of you know already. Cigarettes especially, when given to children, not only make them imbecile, but it is a powerful promoter of a precocious development of the sexual in-

stinct. Prof. Winfield S. Hall, of the Chicago University, has just been called by our Medina Y. M. C. A. to come here and give his celebrated lecture to boys and young men. Knowing that I was interested in this matter I had a special invitation to go and sit with over two hundred boys and listen to Prof. Hall. His lecture was directed principally to this matter of explaining to the boys sexual matters and warning them of the fearful results that follow from careless trifling with these wonderful functions God has implanted within us to perpetuate the human race. Prof. Hall has himself made some startling discoveries along this line. The boy who makes no progress in his studies—the one who is weak and puny in both mind and body, is, nine times out of ten, the boy who has fallen into the cigarette habit, and through that into something even worse. After I listened to Prof. Hall a kind friend sent me a book called "Perfect Manhood," by Prof. T. W. Shannon, Fredericktown, Mo. Prof. Shannon's book is so much in line with Dr. Hall's lecture that it is a matter of surprise; but as nearly as I can determine, neither one knows any thing about what the other is doing. "Perfect Manhood" is a good-sized book of 128 pages, and yet the price is only 25 cents, in paper, or 50 cents in cloth. If this book were put in the hands of every boy in his teens in the United States, my opinion is that no one living can estimate the amount of good it would do.\* The writer, it seems, is employed in going about giving lectures to men and boys, and this book is a history, largely, of what he has met in his travels. After his talk, many sufferers have come to him for advice and counsel. He is a minister of the gospel, and a veritable John the Baptist, delivering his message to a sinful and suffering people.

Some way or other it seems as if the great Father above were sending a *lot* of messages along this line all at once. Here in our own town of Medina, in order to encourage a spirit of unity among the denominations we have a union meeting every Sunday evening, instead of four or five meetings in that many different churches. A minister of one denomination preaches one night, and another the next, and so on. But just recently the ministers all stepped aside and invited Prof. Carlton, superintendent of our Medina schools, to occupy the pulpit. One of our good-sized churches was crowded with people. In his talk Prof. Carlton put strong

\*Below is Judge Lindsley's opinion of another book by the same author after having read it:

Every boy should read or hear such lectures as the four you have published in "The Twentieth Century Boy." It seems to me that you have taken the matter up along proper lines. The lessons shown from the flowers and animals in your first lecture is a very helpful and inspiring method of imparting such a delicate but very necessary knowledge. Your second and third lectures, showing the relation of the vital force to ideal manhood, and how the dissipation of this energy produces stunted boys and defective men are masterpieces of vital truths presented in simple language. With kindest regards I am sincerely yours.—BEN B. LINDSLEY, Judge of the Juvenile Court, Denver, Col.



emphasis on the fact that boys in our good moral town of Medina were using tobacco, and smoking cigarettes contrary to law; and, furthermore, he said the parents of said boys seemed careless and indifferent about it. He said he thought it would do some of us good to have him talk right out plain. His words, so far as I can remember, were something like this:

"As a rule I do not have much difficulty in enforcing obedience. I have, however, recently utterly failed in getting one certain boy to obey. I am going to tell exactly where I failed. In spite of every thing I could do he persisted in squirting tobacco juice down the register. This not only made it unpleasant for us in a room containing sixty or seventy pupils, but it endangered their health. When I found I could not make him stop it I decided to confer with his parents. I thought of writing to his father; but remembering that the father himself might be a user of tobacco I decided to try the mother; and as I was crowded for time I called her up over the telephone, and stated, as gently as I could word it, the trouble that confronted me. Dear friends, I shall always remember that woman's answer as long as I live; and I am going to tell you what it was so far as I can recall it. It was about as follows:

"Mr. Carlton, who is running that school, any way?"

"I told her I was trying to run it the best I knew how. Then she said:

"Well, if you can not run that school and make the boys mind without my assistance, with all I have got on my hands already, I think you had better let somebody else take the job."

"Then she hung up the receiver."

After the above he said something further about as follows:

"My friends, I very much dislike to stand up here and complain; but there are things going on in our Medina schools that the parents evidently know nothing about, but which they ought to know *all* about. I have had charge of schools in some of the worst city slums; I have been in places where you would naturally expect obscenity and profanity to be at their worst; but I think it is my duty to tell you that, during my stay of two years here in the Medina schools, there has been more obscenity, profanity, and passing around from one to another more filthy stories than any other place I have ever been in. I know that Medina has an excellent name on account of her well-filled churches; I know that saloons have been banished from your midst for many years; but, notwithstanding, these things have in some way got in among your children, and it needs *earnest* and *prayerful* care and attention on the part of both parents and teachers. May God help us as we work together, not only for decency and purity, but for *true manhood* in the best and broadest sense of the word."

The last part of the above may not be the exact words he used, but it was the sense of

his talk so far as I can recall it; and permit me to add, may God help us as a nation and a people in our energetic fight for robust manhood; and may he help us to remember that it is not only true in agriculture and farming, but it is true in the schools and in the home, that "whatsoever a man soweth, that shall he also reap."

May 23.—Since the above was put in type I have listened to a lecture by the Rev. A. S. Gregg, of the National Reform Bureau, in which he stated that we already have a law in Ohio, recently enacted, and signed by the Governor, making it a severe offense to sell, give away, or *supply* to any boy or young man in Ohio, under 18 years of age, cigarettes or tobacco in any shape or form. As we go to press I have not been able to learn just what the penalty is; but Mr. Gregg has promised me a copy of the law very soon. He said the penalty would be fine or imprisonment, or both, and he thinks the *first* offense is punishable by a fine of \$100. May the Lord be praised for this just and righteous law; and may he be praised again for having answered our prayers much sooner than any of us expected. The next question is, "Will the law be enforced?" Some of the venders of liquors in dry territory have been not only astonished but *terrified* by fines that almost took their breath away, and pulled so hard on their purses that they will not be likely to go into the same business again very soon. Over in China they have had some keepers of opium-dens who undertook to defy law, in regard to their business. When the Chinese officials found, after repeated arrests and fines, that nothing else would answer, they *took off the heads* of something like half a dozen of them, that other transgressors might have a more wholesome regard for law, order, and decency.

## Poultry Department

By A. I. Root

### EGGS WITHOUT SHELLS; DROPPING EGGS FROM THE ROOSTS AT NIGHT, SHELL-LESS AND WITH SHELLS.

On page 332 of our last issue I said the Buttercups would be making a good record were it not that one of them had a habit of laying shellless eggs. Now, lest any of you should get the impression that these tricks belong particularly to the Buttercups, I submit the following, which is from my brother, who has charge of my southern poultry-ranch in the summer time:

I find that many of the other hens outside of the Buttercups are dropping their eggs without shells. I got around earlier than usual one morning, and found one hen off the roost eating a shellless egg. The next morning I got up before they were off the roost, and found five eggs without shells under the roost. That included the Buttercup that dropped hers regularly. I at once got some green oyster-shells and pounded them up and put them in each yard. I will watch to see if it helps any. This morning, May 12, I got up before they did, and I found but one—that was the Buttercup. The hen I set the night before you left, on that lot of full-

blooded Buttercup eggs would not sit. I changed her for another, and she bothered for a day or two and finally got settled down. The day for her to hatch passed, and not a chick. I was going to break her up; but my wife said, "Let her make up the lost time and she will get *some* chicks, any way." So I left her, and this evening I saw four nice little ones.

Bradentown, Fla.

J. H. Root.

The above letter gives us a glimpse of two possible leaks in the poultry business—yes, and they may be bad ones too; but after scanning our poultry-journals, thirty or forty of them, for a year or two, I have scarcely seen the thing mentioned. How many eggs do you suppose are lost in this way, especially when the proprietor does not get around in the morning before the chickens have got down from their roosts? It does not belong particularly to Florida, because I have seen the same thing here in the North.

As there are two points at issue right here, let us discuss first the shellless eggs. When my brother mentioned the matter I wrote him to give them plenty of lime in different shapes, and also to give them plenty of wheat bran besides a variety of grains. Very likely the matter of shellless eggs can be corrected. I told him to get also some fresh bones at the butcher's, if he could, and grind them up in a bone-mill. This ought to correct the trouble in two ways. It not only gives the chickens plenty of lime, but it gives them an abundance of animal food. I had trouble with shellless eggs here in Ohio a few weeks ago. I *now* find some eggs where there seems to be a surplus of lime in the shells—little lumps of it toward the small end. Now, then, for the other trouble—

#### DROPPING EGGS AT NIGHT WHILE ON THE ROOST.

My brother has told you of finding five eggs one morning under the roost, and I have had more or less of this kind of work ever since I can remember. In order to prevent the eggs breaking, I try to have plenty of soft clean litter under the roosts every night. Down in Florida the light sandy soil is raked over every morning till the surface is so soft that an egg is seldom broken if it drops during the night. Of course, the roosts should be low down. Ours are only 20 inches, with the soft sand underneath. Unless such precautions are taken, great numbers of eggs may be lost entirely. If you have many fowls it will pay you to get around early to gather up the shellless eggs or broken ones, and have them for breakfast. I hardly need to suggest that carelessness and indifference in this matter will teach your fowls to eat their eggs; in fact, I have had ours learn to eat eggs in this way, and I have broken them of the bad habit by taking more pains to get around so as to get a glimpse under the roost before a single chicken had gotten down from her perch. Prevention in this case is certainly better than cure. Whenever you have reason to suspect that any hen in the flock is learning to eat eggs, it will pay you to gather the eggs several times during the day. I think a lot of egg-eating hens can be cured—at

least where they have not got to be *too* bad—by simply watching under the roosts and gathering the eggs several times during the day, and at the same time, of course, having plenty of nests, and having each one of those nests in the dark so the hens can not very well see how to break the eggs. Having the nest just large enough so the hen has not very much room to kick the eggs about is another wise precaution. Be careful, also, about giving a hen any nesting material that contains grain or weed seeds, or any thing else that might induce a meddlesome or inquisitive half-grown chicken to scratch around in the nest. Such troubles as I have mentioned are more apt to develop where a good many laying hens are kept in one yard. My experience is that it is much easier to keep things of this kind in check where not more than fifteen or twenty are kept in a yard.

As several have inquired about poultry in the summer time down in Florida, I propose to have my brother keep us posted. Just now he writes that the different yards are giving just about enough eggs to pay for the feed. Now, this does not look very encouraging unless we consider there are only about 70 laying hens, and toward 200 half-grown chicks, some of them almost old enough to begin to lay, or at least we would consider them so in the North. If the 70 hens furnish eggs enough to feed the whole flock, little and big (at this season), I think they are doing fairly well, especially as he is all the time raising chickens more or less.

#### VERMIN ON CHICKENS PREVENTED BY GROWING EUCALYPTUS-TREES: A "DOLLAR SECRET" THAT COSTS NOTHING.

*Mr. A. I. Root:*—I have just been reading in your department how to keep down lice and mites in the chicken-coop. I wish to tell you a secret of my own that I accidentally discovered. We used to spray our coops with several kinds of solutions recommended for that purpose. We sprayed two and three times a month, and oftener in warm weather, until I planted some blue-gums, or eucalyptus-trees, around the coops. The trees were grown to make fence-posts and wood when large enough. After they were about six months old I noticed the insects were not so plentiful in the coops, and quit spraying. That was seven years ago, and we now do not bother in the least about the insects, and they do not bother the chickens in our yard; but our neighbors who have not the trees complain with all their spraying, while those who have planted trees around their chicken-yards say it works like a charm. That secret is worth a dollar, but I don't charge any thing for it.

Escondido, Cal., May 8.

JAS. A. NELSON.

Friend N., I hope you are right about it; but if you sprayed your premises faithfully for some time it would be nothing strange if the vermin should disappear and stay away, and it might, therefore, be that the eucalyptus-trees had nothing to do with it. If, however, your neighbors are still troubled where they have none of these trees, and their neighbors where they have the trees are not troubled, it would seem to be quite conclusive that you are right about it. And, by the way, so far as I can find out, the eucalyptus has never been made to grow in Florida. I think I have heard, however, that a new variety has been dis-



covered recently that will thrive in that State. Have any of the Florida friends succeeded in growing eucalyptus? Florida, like other places, will very soon need to be thinking of growing trees for lumber, fuel, etc.

#### POULTRY SECRETS, ETC.

One of the saddest things about the "secret" business is that even women have been tempted to go into it. I have several times written up the Missouri woman who sells a secret for picking out the fertile eggs before they go into the incubator, etc.—the woman who gets a dollar for the secret and then insists on 50 cents more for a very poor common 10-ct. egg-tester. Well, this other woman also hails from Missouri. Below are some clippings from one of her advertisements:

MRS. LITHA ALLEY'S NEW POULTRY METHOD: HOW TO MAKE ONE HUNDRED HENS LAY EIGHTY EGGS A DAY: I WILL TELL YOU.

My method has been obtained and perfected from my long study and experience with chickens, and I believe that I have at last discovered the true secret of successful poultry-raising. There is one thing sure, I certainly know how to make hens lay from 10 to 50 times as many eggs in winter. You can't keep them from it when my method is followed. I have the proof in eggs. Half of my chickens have laid every day during the worst weather we have had this winter, and it has been so cold that the eggs would freeze and burst before I gathered them up every evening. Your hens will do the same for you if you follow my method.

#### OFFER NO. 1.

This is my first and original grand offer of my new poultry method, "How to Make Hens Lay More Eggs, Winter and Summer." I will send my poultry method free, with the necessary amount of food ingredients, with full directions, postpaid for \$2.00.

#### OFFER NO. 2.

I will send all ingredients necessary, my methods with full instructions and directions, for one-half of the eggs produced while you are using the food ingredients I send.

#### OFFER NO. 3.

In this offer I send my new poultry method, already described, with my recipe instead of the ingredients, all complete, just as described, postpaid, for only \$1.00. It is all yours then for life. I am willing to accept orders on this offer. I do not advise it; however, be sure to take some one of them. I want every woman in the United States to have the benefit of my discovery and poultry method. My reason for not advising the acceptance of offer No. 3 is that some people may not be able to secure all seven of the different ingredients my recipe calls for, or the druggist may substitute something else, thinking it would make no difference in a chicken remedy, and thereby bad results may be produced. THE WAY TO MAKE CHICKENS PAY—SEND FOR MY NEW METHOD TO-DAY.

There are only two things necessary to make every hen you have lay every day, and that is my method, and—the hens.

MRS. LITHA ALLEY,  
New Madrid, Mo.

Please notice offer No. 2. Out of the kindness of her heart she sends you full instructions for half the eggs the hens lay while they have this wonderful food. There is nothing said about keeping account of how many eggs are laid before the experiment. Whether they will lay any more eggs or just the same, you are to give her half. While reading it I began to wonder how she was to get her half—probably by "parcels post" or some such way. Well, here is the wonderful secret. If it is worth a dollar apiece to all

of our 35,000 subscribers, just think what a lot of good our poultry department is doing.

Below is given my short method, "How to make hens lay more eggs." While it is a brief method it embraces the main or principal features contained in my complete method, which I have developed and perfected from my eighteen years of study, observation, and experience with chickens, and for producing bushels of eggs and frying-sized chickens for market.

My short method to make hens lay more eggs this winter, which contains all information that is necessary at present and will meet the needs fully at this time is as follows:

Take of pulverized copperas,	6 ounces:
"    capsicum,	5 "
"    gentian,	5 "
"    fenugreek,	11 "
"    ginger,	6 "
"    venetian red,	10 "
"    willow charcoal,	5 "

Add 2 lbs. of ground shells if obtainable. Mix all together, and then add the other ingredients as directed below.

Mix the above with 11 pounds of wheat bran and 8 pounds of linseed meal. If you can not get linseed meal you can use cotton-seed meal or ground alfalfa instead. The linseed is best if you can possibly get it, of course. If none of them can be obtained you can use all-wheat bran. It is not so good, however.

#### FOR FEEDING.

Give to each 24 hens about one quart or more once per day in a shallow box. Keep it before them all the time they will eat it, whenever they like. When chickens refuse to eat it altogether, stop their regular feed for a day or so and they will then eat it.

By the way, the recipe is written on a typewriter. It is not only poor writing for a typewriter, but poor spelling, and some of the letters we had to guess at. Now, then, friends, do you believe it is really *true* that she spent eighteen years in deciding *just* what stuff to get at the drugstore, and to determine that 5 oz. of one, 6 oz. of another, 11 oz. of a third, etc., was just the very best proportion? In real scientific work, for instance at our experiment stations, they do actually make exhaustive and expensive tests to determine not only the ingredients needed, but about the proper amount required of each. Now, *this* is real science and sound common sense; but the stuff some concoct to make hens lay, to cure poultry diseases, and, in fact, to cure human beings, is certainly a lot of arrant nonsense and humbug. As an illustration, I went into a drugstore and told the drug man I wanted something to kill sticktight fleas. He poured something out of ever so many bottles. I thought once he was going to make a mixture of every thing he had in the store. He handed it back, saying, "There, that will knock them out, sure." Price 25 cents. But his compounded stuff did not do as much good as common kerosene right out of the can; and we afterward decided that plain sal-soda alone, that costs only 3 cts. per lb., is better than any of the advertised nostrums. Let us now go back to the subject of "making hens lay."

Possibly the above mixture *will* have some influence on their laying, but I doubt it. Along with the secret come certain directions about giving the fowls food and water, sanitary housing, etc., that would of itself, without any drugs, probably increase the egg-yield; and last, but by no means least, if I

am not mistaken, that whole recipe was copied from some printed book. And this is only *another* illustration that the largest part of the peddled secrets are copied from some book or periodical. As nearly as I can remember, I saw the same thing given in some poultry-book; but I can not just now lay my hand on it. Just one thing more:

How many of the fifty or sixty poultry-journals published in the United States are helping GLEANINGS to ferret out and expose these frauds? There may be half a dozen all together that have put in an encouraging word; but none of them seem to have the "nerve" (if that is the word) to *publish* these so-called secrets and give the full name and address.

#### SKUNKS KILLING MATURE FOWLS, ETC.

I am busy running an incubator now, and am interested in A. I. Root's chicken talks, as I have been raising chicks for ten years. I sell from 100 to 300 every spring by hatching in an incubator and putting with sitting hens and selling the whole—sometimes as many as 30 chicks with one large hen. I never had quite the troubles Mr. Root had; but last fall skunks ate up all my best pullets just about as they were about to begin laying.

Barre Plains, Mass.

MRS. G. L. EDSON.

#### GOING TO FLORIDA TO GET RICH, ETC.

We clip the following from a full-page advertisement in the *Up-to-date Farmer*:

We can prove to your entire satisfaction that sweet potatoes retail in the large cities for \$1.25 to \$1.50, and that you can raise a crop of sweet potatoes and two other valuable crops on the same land during the same 12 months. We can prove that you can raise 400 to 500 bushels of sweet potatoes per acre.

#### 650 BUSHELS PER ACRE.

Mr. A. J. Hinson states that his "average yield of sweet potatoes is 450 to 500 bushels per acre, but that he has raised as high as 650 bushels." We have this statement over his signature. Now, it's easier to raise sweet potatoes than corn; but, granted it costs the same, this is equivalent to thirteen hundred bushels of corn to the acre, figuring at 50 cts. per bushel, and potatoes at \$1.00 per bushel. Then you can raise two other crops of other truck on the same land during the same 12 months.

The chief objection to fruit-raising is, it takes so long. We are after providing homes for deserving people who haven't money enough ahead to wait several years for fruit-trees to grow.

#### POULTRY.

Five years ago a Northern settler, with very little money, located near Green Cove Springs, Fla., and started in the poultry business. To-day he has about 3000 chickens and receives \$13,500 annually for eggs alone. The tourist hotels of Florida furnish a great demand for eggs and poultry. Not so much capital is required for this business, as the winters, being so mild, very little housing is required.

It certainly is very commendable for that Florida land company that they are so energetic in "providing homes for deserving people;" but I am really afraid they are after something besides pure philanthropy. As usual, a part of their statements are true or sometimes true. Sweet potatoes do sell in some places at from \$1.25 to \$1.50 per bushel; but how about getting them to market? They say, "We can prove that *you*." Now, it may be true that an expert, during a very favorable season, may raise from 500 to 600 bushels to the acre; but the average man from the North would not do any thing of the kind. Again, in regard to poultry, if

the 3000 chickens were all laying hens, \$13,500 would be a *tremendous* success. These people are careful not to give the *names* and *addresses* of the successful men. They end up with a grain of truth. The Florida hotels *do* furnish a demand for eggs and poultry at good prices, and little or no housing is required to keep chickens in Florida. But I tell you there are some other things that *are* required. Go and try it on a small scale if you wish; and also go and talk with the average man who raises sweet potatoes or keeps chickens. If such chances are "lying around loose," how is it that my farm, right in neighborhood of Green Cove Springs, would not sell for more than \$5.00 or \$6.00 an acre? There has been no better price offered for the last dozen years.

#### NO BUSINESS FOR THE GRAND JURY AS THE RESULT OF MAKING A COUNTY DRY.

In May 1st issue, p. 304, I asked the question how the people of the counties that have voted wet could look a good man or woman in the face, etc. Well, the *Cleveland Press* for May 5 tells us that Lake Co., O., containing the beautiful city of Painesville, with over 7000 inhabitants, has, for the first time in the history of the county, or memory of the oldest inhabitant, dismissed the grand jury in *just 25 minutes*. When the county voted wet they had thirty or forty cases, and the jail was full of criminals; but now there is "nothing doing" there. Further, they have just built a beautiful new jail with all modern conveniences, but there is not a cell occupied, and not an inmate to make use of the beautiful new furniture. The mayor of the city says it is his opinion that voting the county dry accounts for the new order of things. And, by the way, would it not be a good way to go a little slow in building new jails and penitentiaries? There is just now a big rumpus going on in the capital of our State because our penitentiary is not only unsanitary, but it is not large enough to hold the inmates, particularly the *boys* and *young men* of Ohio. Now, instead of investing something like a million of dollars in a new penitentiary (out in the *country* somewhere), had we not better take half that amount, or less, and go right to work and make the capital of our State a dry city? Why! if the farmers and the people inhabiting our small towns were permitted to have a fair chance in the work, we might not only make Columbus dry, but the whole State of Ohio. It was Ohio that gave birth to the Anti-saloon League, and kept it going through years of discouragement. Is it not fitting that Ohio should (I can not say *lead*, for the Southern States have done that already) fall into line and set an example to the other States here in the North by banishing the entire traffic from our borders, and stop making bigger penitentiaries and asylums? God help us.